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Addresses.

ON THE ADVANCEMENT OF SURGICAL PEDIATRICS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., AT ST. PAUL, MINN., JUNE 4-7, 1901.

SAMUEL W. KELLEY, M.D.

Professor of Diseases of Children in the Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University; Pediatrist to the Cleveland General Hospital, to the City Hospital, etc.

CLEVELAND, OHIO.

SURGERY IN PEDIATRICS.

I wish to offer some remarks on the advancement of the surgical side of pediatrics. Surgical pediatrics was later and slower in its development than was medical pediatrics. It is evident that the advance of such a science and art may be measured in many different ways. For instance: 1. By the recognition of the necessity and importance of it. 2. By the increase of actual knowledge concerning it—the discovery of new facts. 3. By the spread of knowledge through text-books and other literature, teaching in the medical schools, and in that kind of post-graduate schools wherein all are professors and all are pupils—namely, the medical societies. 4. By the extent to and the manner in which knowledge is applied in practice, both private and in hospitals, and the number and enthusiasm of those who devote themselves to it.

Obviously it will be impossible for me to trace elaborately the advance in this department, which would involve a complete history of the branch. I shall merely touch here and there certain salient points indicative of progress, or the lack of it.

Among all these indices one may usually measure very well the status of any department of learning by its own special literature; although it may happen that the facts or principles which should be combined into a science remain too long isolated or connected with various other groups, their own natural relationships unrecognized.

As we all know, numerous writers from the ancients down have alluded to the behavior of disease in children, the surgical, occasionally, as well as the medical; and yet as late as 1846, when Coley wrote an introduction to his "Practical Treatise on the Diseases of Children," he made the following statement: "I am not aware, however, that any author, British or foreign, has published a work comprehending all the diseases incident to children and their appropriate surgical as well as medical treatment. This omission may be accounted for by the division of the profession, which has limited the education and practice of physicians who have hitherto been the principal or only writers on infantile disorders."

This remark Dr. Coley makes after professing himself acquainted among modern writers, with the works of Astruc, Armstrong, Hamilton, Cheyne, Heberden, Becker, Plenk, Auvity, Burns, Capuron, Clarke, Gardien, Comet, Gölis, Dewees, Underwood, Billard, Meissner, Marley, Maunsell and Evanson, Barrier, Barthez and Rilliet, Rees, etc. I am ready to vouch that Dr. Coley's statement is well founded, for on perusal of many of the authors he mentions, and others not in his list, it becomes evident that none of them had given adequate attention to the surgical side of children's diseases.

Take for example Underwood—writing in 1795—who devoted 188 pages, or Part I, of his second volume, to "All such complaints as may fall under the province of the surgeon, with others that may be said to be of a mixed kind which," as he says, "should be all familiar to every accoucheur." But Underwood addressed his text as much to the laity as to the profession, and there is little or nothing in it to enlighten or guide the surgeon.

Even John Syer, surgeon, of London—who, being a surgeon, might be expected to do better in this respect—in his treatise, written in 1812, presented no topics which might be called surgical, excepting purulent ophthalmia, croup, and rickets. Under croup, he did not even mention any operative measures. However, tracheotomy, although known, was little esteemed until Trousseau's revival of it in 1850-57. As to rhachitis, Syer gave no definite account of the deformities and only a general description of deformity apparatus. For these, as for other diseases, he presented "the General Principles of their Domestic Treatment."

Dewees' "Treatise on the Physical and Medical Treatment of Children" (1826), included ophthalmia, croup, hip-disease, hydrocele, herniæ, and several skin affections, but even these few surgical topics can not be said to have been handled surgically.

Eberle's book (1833) had practically nothing surgical.

Billard—the English translation of whose work appeared in 1839—included in his treatise diseases of the skin, herniæ, prolapse of the rectum, intussusception (at least the kind found postmortem), malformations of various parts, and also fractures—intra-uterine, and of the new-born. But he pointed out no differences between those abnormalities and similar conditions in the adult, nor did he give the treatment for them. His attention was centered on "Recent Clinical Observation and Investigations in Pathological Anatomy," for this was the period of a new enthusiasm in that branch of medical science.

Evanson and Maunsell (1843) included syphilis, rhachitis, skin diseases, foreign bodies in the larynx, fractures, herniæ, nevi, tongue-tie, hare-lip, spina bifida,

and ophthalmia, imperforate anus, and various deformities of the genito-urinary organs. Although they sometimes advised and described the treatment then considered appropriate for these difficulties, their general attitude seems to be expressed in a remark which appeared in connection with making an artificial anus in the groin (page 138), as follows:

"The operation would be a very hopeless one; but a consideration of its merits, and of the exact modes of performing the other operations, belong rather to the province of the surgeon, than of the child's physician—who, in that capacity, has merely to ascertain the nature of the deformity, and must draw upon his own general knowledge of surgery, or apply to another practitioner for the means of its removal." Their position on this point is again stated when treating of hare-lip (page 139). "The consideration and treatment of this deformity belongs to the surgeon—all that the child's physician, as such, has to do with it, is to consider *when* the operation should be performed. If the child can suck, it is better not to submit it to the hazards of an operation in early infancy. But cases occasionally occur in which such a degree of deformity exists as to demand immediate assistance in order to give the infant a chance for life. The nature of the operation, and modes of performing it, belong altogether to the province of surgery."

These authors mentioned are but examples. Others who might be cited—for instance, Stewart, 1843,—were much like them. So that it appears to be true that physicians had until then "been the principal or only writers upon infantile disorders," and had made little progress in surgical pediatries.

But Coley purposed, as every good author should, to do better than his predecessors, and in the matter of the surgical diseases, he in some degree succeeded. He not only discoursed on the herniæ, imperforate anus, clubfoot and other distortions, hare-lip, laryngotomy and tracheotomy, foreign bodies swallowed or lodged in the pharynx, or in the vermiform appendix,prolapsus ani, pyothorax, vesical and urethral calculus, imperforate urethra and vagina, phimosis and paraphimosis, diseases of the joints, burns and scalds, spina bifida, and other surgical topics, but he advised and described the surgical treatment which experience or the literature up to his time had taught him. He also treated of diseases of the eyes, and of the skin, quite extensively. But Coley's book seems to have attracted little attention.

J. Forsyth Meigs, writing in 1848, presents nothing surgical, although his work more nearly equalled the quality of those on general medicine than had any upon diseases of children up to that time. Nor can the lectures of Charles West, the most admirable clinician and oft-quoted writer of his time, be said to deal with both sides of his subject.

In Churchill (1850), a few topics, as tracheotomy, paracentesis for pleurisy, hare-lip, cleft palate, imperforate anus, and spina bifida receive some surgical handling. Condie does not consider that surgical subjects fall within the scope of his treatise.

But by this time the knowledge of anatomy, of physiology, of pathology, and of the history of diseases and injuries had increased to such an extent, the observations of practical surgeons had so accumulated and the establishment of hospitals for children had so improved the facilities for the study of their diseases that their peculiarities and their importance could no longer be quite ignored by the profession.

About the year 1850, in Paris, while Trousseau taught the diseases of children, the surgical side was taught by Giraldes, who, however, published little in permanent form until later. In 1855, J. C. Forster, in London, had been making "A few remarks on the surgical diseases of children," and in 1860 his 8vo volume was published. It was also in the year 1860 that A. A. W. Johnson delivered, at the Hospital for Sick Children, a course of "Lectures on the Surgery of Childhood."

In 1863 we find that the council of the Medical Society of London, "recognizing the importance of this subject, have been led to believe that the interests of its members might be promoted and the profession benefited by having their attention drawn from the broad field of general medicine and surgery to the comparatively small one of the diseases of children; and on the strength of this belief have, abandoning the custom by which they have been hitherto bound, defined the subjects for the Lettsomian lectures"; and they nominated as lecturer, Mr. Thomas Bryant, who delivered three admirable lectures on the surgical diseases of children.

M. Giraldes, in Paris, had been followed as the leading teacher, by Guersant, whose "Notices sur la Chirurgie des Enfants," a series of very pointed and practical papers, found their way into an English translation in 1871. Giraldes prepared his clinical lectures for publication about the same time.

The work with both scalpel and pen, of the pioneers in this special line, had now become so valuable that still further interest was aroused and talent engaged in its behalf.

In 1869, Timothy Holmes issued his "Surgical Treatment of Children's Diseases," a book of nearly 700 pages, and in quality well worthy of its great author.

You will please observe that Holmes omitted, from the first edition, some special subjects, viz., diseases of the eye and ear, orthopedics and diseases of the skin, "not," he says, "because I am in favor of cutting up surgery into little pieces, but because the volume had already exceeded what I had intended; and these subjects are all excellently treated in works which are in everybody's hands." However, in the second edition—yielding to a sense of the fitness of things—he added a chapter on orthopedics. I mention this point in particular to illustrate the fact that the other specialties had advanced so much faster than pediatrics, and particularly than surgical pediatrics, as to have completely outstripped it in development as a distinct branch of our profession.

This statement is capable of verification by reference to the history of the other branches and is particularly shown by the specialties of the eye and ear, skin diseases and orthopedics, and later gynecology. Obstetrics, which synchronously with anatomy had become separated in the work of the medical schools from surgery, had remained in practice more distinctly in the hands of the general practitioners. But obstetrics, fecundated by its former companion, surgery, gave birth to a charming daughter, gynecology, who soon grew to maturity, came out in society with the greatest èclat, became the reigning belle and turned the heads of many susceptible young men for a long season. Thus gynecology, with the other specialties, chronologically took the lead of surgical pediatrics.

It is curious to observe in this connection that the "Compendium of Children's Diseases," of Johann Steiner, of Prague, which appeared about this same

time, had for its English translator no less a personage than Lawson Tait, who added a few notes on the "Surgical Ailments of Children." One can not but speculate on what might have happened if Lawson Tait had felt a greater attraction for surgical pediatrics than for gynecology.

But my cursory sketch has brought me down to times almost within the recollection of the majority of my hearers. You are familiar with the record of the last thirty and the magnificent work of the last twenty years in the surgical diseases of children.

To continue a comparison among the recent achievements of those still active in professional life would require a nicer discrimination and might involve greater consequences than I care to assume; but I may at least mention, in passing, and almost at random, the names of Pooley, Marsh, Owen, St. Germain, Fumagalli, Willard, Wright, Ribiera y Sans, R. W. Parker, Charon and Gevaert, Karewski, McEwen, McClellan, Keen, Taylor, Wharton, Packard, Morris, Morton, Power, Phocas, and O'Dwyer, although I have omitted scores of worthy authors of books and writers of essays, brilliant investigators and able practitioners in this field. The new impulse came along with the grand impetus of general surgery occasioned by antisepticism.

There is now needed no elaborate argument to prove that there is a department of surgery as distinct from that of adult life as the medical diseases of children differ from those of their elders. As in medical pediatrics, so in surgical, we meet abnormalities found only in children, and also we meet those which, while they occur in adults as well as in children, are in the latter marked by different phenomena, manifest a different behavior, require a different treatment and often bring a different result from what would be usual in the same affections occurring in persons of mature years. It is only necessary to point out that the malformations, the early evidences of hereditary syphilis, separation of the epiphyses, croup, rickets, eneuresis, cancrum oris and noma, as well as certain herniæ and hydrocele and certain varieties of tumor, belong to the class of troubles found only in children. While intussusception, prolapse and polypus of the rectum, hip-joint disease, post-nasal adenoids, enlarged tonsils, foreign bodies in the nose and ear, and cervical adenitis, although not exclusively found in children practically belong to the surgical affections of childhood.

Concerning the fractures and dislocations, empyema, and nearly the whole remaining list of surgical ailments —not to mention orthopedics or numerous affections of the eye and skin—we who have given the subject special study and are accustomed to surgical work among children know how common they are, and to a certain extent how different they are from similar afflictions in the adult. We are aware what peculiarities surround operative work upon children; how ill they bear hemorrhage or cold or prolonged shock, and how wonderfully they recuperate once the stress of the storm is past. The effects of anesthetics and of antiseptics, the art of dressing and bandaging and the use of medicines and diet in surgical cases—all these differ in children from similar cases in the grown up. Even if the specialists take all they dare there is enough remains of what might be called general surgery of children that is peculiar and requires special study and experience.

In view of all the splendid progress that has been made, it may appear ungrateful and hypercritical to seem dissatisfied; and yet to be satisfied is to stop progress, and there remains a great deal to be done to advance this department.

The exact points and degrees of difference in the phenomena of diseases and injuries, their prognosis and their treatment are not yet all completely mapped out, while there is much territory never yet thoroughly explored by any in the profession.

A larger amount of work needs to be done in the diffusion of such knowledge as is available, and in the application of it in practice; for the available knowledge is yet but indistinctly and vaguely seen in the minds of many practitioners of general medicine and surgery, and the all-around pediatrist as often finds the surgeon as the physician at fault in his work upon children, for want of special knowledge of them—mistaking the condition, miscalculating the probabilities, misjudging the vital force. In fact, the profession at large has not yet even sufficiently recognized the necessity and importance of this branch.

In the colleges insufficient attention is paid to the surgical diseases of children. In 1896, in an address as president of the Ohio State Pediatric Society, I gave the replies I had received to inquiries directed to the various medical colleges of the United States and Canada, upon the point whether surgical as well as medical diseases of children were taught in the regular course. Sixty-three colleges replied upon this subject. Thirty-seven of them said that the medical side only was taught and twenty-six taught surgical as well as medical pediatrics. When I asked the question, "Does the teacher individually consider that pediatrics includes the surgical as well as the medical diseases of children," I was answered affirmatively forty times, negatively, thirteen, while the remainder either left the question unanswered or answered indefinitely.

In the medical journals and in the medical societies one finds evidence that too little attention is paid to these surgical subjects. Examine your journals and the program of any medical society, even a pediatric society, and see what a small percentage of papers is on surgical topics in pediatrics. Some of those which should be found in the pediatric appear in the transactions of other specialties.

There is still in the minds of the profession, as of the people, a degree of misapprehension as to the natural and proper scope of pediatrics. There are many, both in and out of the profession, who look upon the child's doctor as a kind of a male nursemaid, who limits his practice to mixing milk and inspecting diapers. Very important things to be done are these, but scarcely the only work of a pediatrist!

There should, if necessary, be children's surgeons as well as children's physicians; or if, as Holmes says, one "objects to cutting up surgery into little pieces," it should at least be required that the surgeon extend his knowledge to diseases of children.

As to whether one man can practice, successfully, both medical and surgical pediatrics, is a question somewhat aside from our present theme. In my opinion the answer must depend on the circumstances and the man.

In addition to the misapprehension I have mentioned as to the scope of pediatrics, and to the fact that other specialties have outstripped it and to some extent taken from it, it is evident that the long-time-ago state of affairs yet prevails—namely that more physicians than surgeons have devoted themselves to this branch. To

what extent this is a cause and to what extent an effect of the other causes, would be hard to decide. But I believe the present state of things will continue until earnest and devoted workers in this department succeed in gaining general recognition of its importance, and either more pediatrists turn their attention to surgery or more surgeons turn pediatrists.

My hope is that the attention of my hearers individually, and of the Section as an organization, may be aroused on this subject, and that you may be led to make further advancement in this beneficent and to me most delightful department of professional labor.

THE STUDY OF LARYNGOLOGY IN THE UNIVERSITY AND IN THE HIGHER MEDICAL EDUCATION.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT ST. PAUL, MINN., JUNE 4-7, 1901.

JOHN N. MACKENZIE, M.D.

Clinical Professor of Laryngology and Rhinology in the Johns Hopkins University, and Laryngologist to the Johns Hopkins Hospital.

BALTIMORE, MD.

Instead of making the usual report on the year's progress in the specialty, I will depart from the prescribed routine and call attention to a subject which is of vital importance both to the laryngologist and to the profession at large. At the outset I wish it to be distinctly understood that I shall speak only of undergraduate instruction in schools of the very first rank, and not of the more elaborate training of the postgraduate for special work.

The study of laryngology has been grossly neglected in the medical schools of this country and Europe. It is either omitted entirely from the schedule of studies or, in many colleges at least, it is taught in a superficial, perfunctory sort of way that neither inspires faith in the instructor nor interest in the student.

Although the catalogue often tells in glowing terms of a course on laryngology, such a course will be found in practice to be like the "Co." in "A. Tetterby & Co.," "a mere poetical abstraction, altogether baseless and impersonal." In very few schools is it taken at all seriously, while in only one is it an obligatory study and a requisite for the degree. It seems to me, therefore, that the time is ripe for the discussion of its place in the university and in the higher medical education.

IMPORTANCE OF A STUDY OF LARYNGOLOGY AND ITS PROPER PLACE IN THE CURRICULUM.

I use the term laryngology in its broadest sense, to denote the anatomy, physiology and diseases of the upper respiratory apparatus, together with its connections and appendages, or accessory cavities. In this latter category may be placed the pharynx and the middle ear. The position assigned to laryngology in the university has been heretofore not at all commensurate with its importance, and yet of all the pure specialties, that is to say, those branches requiring special technique and special instruments and methods of precision, it is the most generally useful to the diagnostician and general practitioner. The time has gone by when it should be necessary to press the claims of laryngology to recognition of the highest rank. We no longer apologize—we demand. There was a time when laryngology meant little more than the art of laryngoscopy, and it was often prostituted to inferior use. It is no longer a simple method of examination and demonstration, but an enduring, vital force in medical progress, which lives and breathes and has its being within the very heart of inner medicine itself. It is no longer the Canaan of the quack, but a fair land of promise for the highest order of research. It should, therefore, hold high place in the curriculum of the college and university. It should have a separate, well-equipped department and a full professorship. While I do not wish to over-estimate the relative value of laryngology in a scheme of medical education, and while I am fully conscious of the present congested condition of the schedule, and the future necessity of a large number of elective studies, I am of the opinion that, in view of its very great importance, it should remain, as it is in the curriculum of the Johns Hopkins University, an obligatory study. If laryngology and ophthalmology should ever disappear from the list of compulsory studies, they should be the last to go. Their exile from a curriculm in which they have been once established would be, not an act of progress, but of retrogression.

THE FUTURE OF THE LARYNGOSCOPE.

A knowledge of the use of the laryngoscope will in the future be as necessary to the equipment of the advanced physician as is now a knowledge of the physical examination of the chest. It is absolutely invaluable to the diagnostician, for it is especially useful in the early detection of disease, often pointing, long in advance of classic signs and symptoms, the way to grave disorder. Time was, not very long ago, when physical diagnosis of the chest was not required of the medical student, and when the special knowledge of the art was supposed to be, and practically was, confined to the few. Now every practitioner of medicine knows, or thinks he knows, it all. The laryngoscope will go the way of the stethoscope and become the common property of the general practitioner of medicine. It will be an absolute necessity in that specialty which, next to surgery, is the highest of them all—the great special study of the future— internal medicine. The time will come when the art of laryngoscopy will be linked to general medicine as the art of physical diagnosis has become its inseparable associate.

INCREASING GENERAL KNOWLEDGE OF LARYNGOLOGY.

When, twenty-three years ago, the conception of creating the American Laryngological Association, the oldest special society of the kind in the world, arose in the brain of its too-early-lost founder, it was hardly possible to gather together more than a corporal's guard of men of national reputation in this department of medicine. Now the complexion of things has entirely changed. While at that time the specialist was found only in the larger cities, now there is scarcely a hamlet in the land that does not contain a laryngologist—indeed, in recent years the larynologist has, in some quarters at least, proliferated to an alarming extent.

There will come a time in the future—in the near future, perhaps—when the boundaries of the specialty will be almost indefinitely extended. The great advances which laryngology has made in recent years, the rapidly growing necessity of a knowledge of its special province in the elucidation of obscure conditions in adjacent and remote organs of the body, the popularity of its study and the accordingly rapidly increasing number and far-reaching geographic distribution of its votaries, will, in the course of time and in the nature of things, lead to such a congested state of the specialty that many will either be driven into the ranks of general medicine, or compelled to take up some other line of special work in

connection with their original specialty. This already has been done in the smaller towns and in the great centers of population in the progressive west, where ophthalmology is the inseparable associate of laryngology and otology. The rational practice of the latter is impossible without a thorough knowledge of rhinology and diseases of the throat, and nothing is more illogical and grotesque than its solitary association with ophthalmology, except, perhaps, the combination alleged to have been practiced by a distinguished foreign ovariotomist, who took no cases except abdominal tumors and diseases of the ear.

While a more general knowledge of laryngology may have its drawbacks, if we look at the subject from a purely commercial point of view, it may have, among other things, a salutary effect in relegating to the rear that unfortunately numerically large element in our midst whose only claim to special knowledge resides in the possession of the necessary apparatus which goes to make up the armamentarium of a worker in this field.

DEVELOPMENT OF THE STUDY OF LARYNGOLOGY.

Let us now turn to the development of the study of laryngology by undergraduates in our medical schools, if, indeed, we may speak thus of a study which has practically just begun, and, in doing so, perhaps I can best illustrate the different phases of its development by giving a chapter from my own experience.

Twenty years ago, when I was on the working staff of the, then, largest throat and nose clinic in London—the Hospital in Golden Square—there was no place in that vast metropolis where the student could get systematic instruction in special work. None of the colleges or hospitals gave lectures on laryngology—nowhere was it requisite for the degree. All strangers in London, interested in the specialty, came to Golden Square, attracted there by the personality of Morell Mackenzie, then at the zenith of his popularity and power. With all the vast material at our command, there was practically no instruction given, except in the way of hasty demonstration of cases; and if the student or visitor learned anything, it was through close personal observation on his part and not through any gigantic effort to impart knowledge on the part of the medical staff. With one or two exceptions, the latter directed their attention almost solely to the larynx and thyroid gland, and the nasal passages were only examined when in quest of a polypus or when the attention was irresistibly attracted to these organs by the horrible stench of an ozena. The nasal cavities were practically neglected and the only apparatus in the hospital for the treatment of these diseases consisted of a pair of forceps for the removal of nasal polypi, and a hand-ball atomizer with a detergent solution for the treatment of ozena or any other miscellaneous disease of the nose that might irresistibly obtrude itself upon the recognition of the medical staff. When later I studied on the Continent, I found a like condition of affairs. In no school was laryngology taught to undergraduates, and the only means of acquiring special knowledge of the subject were the imperfect courses on diseases of the larynx given by the professors and their assistants. There was no special course in rhinology, which subject, as in England, was left entirely alone. I returned to my own country to find the same neglect of the study of laryngology that I had found in England and on the Continent.

In 1887 I was called to the chair of laryngology and rhinology in one of the oldest medical schools in America. The annual catalogue and circular told in flamboyant terms of a course on laryngology which at once set the mind to wondering how it would be possible for a student to escape from the institution without absorbing all that was coming and all that had gone before in that imperial domain. On my induction into office, I cast about me for the paraphernalia which should accompany my lofty position. I found in a dark closet or hole which led under the seats in the amphitheater where the lectures and clinics were given, a dilapidated lamp whose structure and general appearance of antiquity suggested the possibility that it might have been originally trimmed by some spirit in the age of fable, a broken laryngeal mirror, from whose back the quick-silver had long since departed and a cardboard diagram, colored blood red, like an eczema, which was supposed to represent the laryngeal image but looked more like a vulva on fire. These crude implements of the laryngoscopic art I found—and a tradition. According to this tradition my predecessor in office was accustomed to meet the class at the opening of each session, and, after a few introductory remarks, disappeared with a patient into the closet under the seats and closed its door. There was a period of breathless silence and intense expectation on the part of the students, during which time all manner of strange noises were heard in the darkness beneath them. These finally ceased, and the professor reappeared, his face radiant with satisfaction, and advancing toward the class, with the laryngeal mirror held aloft, triumphantly exclaimed, "Gentlemen, I have seen the vocal cords." According to the same tradition, that was all the laryngology the class got during the session.

The quarters assigned to me in the dispensary, where the patients were examined, consisted of a little compartment or "box" from which all sunlight and fresh air were carefully excluded, and in whose foul atmosphere two of my assistants subsequently probably contracted tuberculosis. It was thus thoroughly equipped and under such cheerful conditions that, without either moral or financial support on the part of the executive branch of the institution, I began the task of teaching practical laryngology to undergraduate students. Fortunately, I had excellent assistants, with whose aid I soon built up an excellent clinic, so that we were enabled to give the men during the session demonstrations of most of the diseases of the upper air-tract and all the common operations on the nose and throat. I gave the lectures and clinics and my assistants superintended the instruction of the students in the dispensary. Although attendance in the department of laryngology was not compulsory, and although no examination was ever held in this branch, the course was largely attended and many became so much interested in the subject that they subsequently took it up as a specialty.

In 1889 the Johns Hopkins Hospital threw open its doors, and several years later (1893) the medical school in connection with it and the University, was formally opened. The Johns Hopkins University deserves the credit of being the first institution of learning, either in this country or beyond the seas, to give to laryngology the prominence which its place in medical education demands. It was the first to make it an obligatory study in the curriculum, and to make an examination in this branch a requirement for the degree of Doctor of Medicine. This was one step, and in consideration of the former neglect of the subject, a prodigious one, to place laryngology where it properly belongs and to give to it the position and prestige to which it is justly en-

titled. It, therefore, marks an important era in the evolution of the undergraduate study of laryngology. If for no other reason, then, as a matter of historical interest, I will ask attention to the method of teaching the specialty which has been adopted in this institution. I shall content myself with simply giving a mere outline of the work, and shall not enter into matters of detail.

STUDY OF LARYNGOLOGY IN THE JOHNS HOPKINS MEDICAL SCHOOL.

The time required for the degree of Doctor of Medicine is four years, of nine months each. The requirements for entrance to the medical school are rigid, only those being admitted who give evidence of having had a liberal education as indicated by a collegiate degree in arts or science, including an acquaintance with Latin, a reading knowledge of French and German, and adequate training in physics, chemistry and biology. The first two years are devoted mainly to practical work of all kinds in the laboratories of anatomy, physiology, physiologic chemistry, pharmacology and toxicology, pathology and bacteriology. During the last two years much of the students' time is spent in practical work in the wards, laboratories and dispensary. It is not until the fourth year that the class enters the special departments. It is my intention to give a course on laryngology in the third year, so that when the student enters his graduating or fourth year course, he may be at least familiar with the use of the mirror. I mention these facts simply to show that, when the student reaches me, he is quite thoroughly trained, not only in the use of his brain, but also in the use of his hands. By constant practical work for three years, he has acquired an amount of manual dexterity which enables him to master the art of laryngoscopy with relative ease.

The graduating class is divided into four sections—each section (of the fourth-year class) attends for one and one-half hours daily during two months, the laryngological and rhinological department, where they receive practical instruction from my assistants and myself. After preliminary drilling in the use of the laryngoscope and other technical procedures, and in diagnosis, the student assumes the work of clinical assistant. He is given pathologic material for examination and diagnosis, and is encouraged to report cases and read papers before the Hospital Medical Society, to look up the literature of interesting subjects connected with laryngology, to observe for himself and, if he has time, to do original work. He is taught to investigate and to enquire, and I may say just here that it often requires a very high order of human ingenuity to construct an evasive answer to some of the conundrums with which I am frequently assailed. He takes his first lesson on the human subject—gets his first impression from Nature. I formerly used models; but some one stole them and I am glad they are gone.

By the above method, the teacher comes into direct personal contact with each member of the class, and is enabled to measure the mental status of the individual. In no other way can laryngology be properly taught. It is hard work, but it pays in the results which are accomplished. Laryngology can not be taught by text-book or lecture. It must be taught over the shoulder of the instructor, and on the part of the student, must be acquired by direct contact with, and personal observation on, the living subject.

While the didactic lecture is fast becoming an anachronism, I do not believe that the day of its usefulness is completely gone. I give a systematic course of weekly lectures to the entire class, which are supplemented by pathologic and clinical demonstrations, on the anatomy, physiology and commoner diseases of the upper air-passages and their relations to morbid processes in other parts of the body. In this course especial attention is paid to diagnosis. The object of these lectures is two-fold: 1, to give in a concentrated form and in the shortest possible time information which could not be acquired except by great additional labor on the part of the student, and 2, to avoid endless repetition in the section room.

In the matter of text-books and literature, the class is shown the principal works and current periodicals in English, French and German. No special text-book is recommended or required; but, in connection with the lectures, the students are referred to special articles and monographs containing the classic literature of each special subject.

The question of the value of examinations is a very important one and one which is destined soon to be pressed to final settlement. While I can not go as far as my gifted friend and colleague, Professor Mall,[1] who is of the opinion that it would be well to separate them from the course of instruction entirely, I must confess that I am very much in sympathy with him in the main points of his contention. But until a more rational and exact method of accomplishing the same results be devised, I am afraid the examination must remain as a necessary evil. It is often a farce. One of the best examination papers I ever received was from a student who, on account of a serious illness, was compelled to absent himself from the very lectures on which the class was being examined. He had used the notes of a fellow-student and came back at me almost with my own words. In the university in which I received my first medical degree, instruction, except in the department of anatomy, which was practically and ably taught, was entirely by didactic lectures. We sat all day in the lecture-room taking notes, and spent the entire evening "cramming" them for the next recitation. We never saw a medical case. Once during the session, the professor of surgery brought in the colored janitor, stripped him and bandaged his legs and arms. This was our only course in practical surgery. Those were the good old days when, as Mall says, the students "heard much, saw little and did nothing." When the day of examination arrived I knew my text and note books from cover to cover, and could locate with unerring accuracy any required item of information to the page and to the line. My memory was so saturated with medical lore that it took me some years after I left college to forget it. I was invincible in the examination room, but helpless at the bedside.

The best examination is the observation of the student in his daily work and the resulting estimate of his personal equation. During the first two years I gave an oral examination at the end of the term, carrying each student over the entire field covered by the lectures, but, as the size of the class increased, this had to be abandoned, and I now give a single written examination, of which the following, which was my first, is an example.

1. Give the physiology of the nasal and accessory cavities.
2. General symptoms and diagnostic signs of suppuration in the nasal accessory cavities—diagnosis of pus in the antrum maxillare.
3. Early laryngoscopic diagnosis of tuberculosis and cancer; characteristics of syphilitic, cancerous and tubercular ulceration in the upper air-passages.

1. Liberty in Medical Education; Phila. Med. Jour., April 1, 1899.

4. Chief causes, symptoms and laryngoscopic signs of double, complete abductor paralysis.

5. Nature and diagnosis of so-called nasal reflex neuroses.

Out of a class of thirty-four there were only two who failed to pass.

This, in brief, is a simple outline of the way in which laryngology is taught in the Johns Hopkins Medical School. I am fully aware of the imperfections of the method; but everything must have a beginning, and time and further experience will doubtless make it more perfect. In the classes under my care it has so far been very successful. The net result is that when the student graduates he has made a very fair groundwork on which to base, in the future, if he will, a more elaborate study of the specialty.

LARYNGOLOGY THE INSEPARABLE ASSOCIATE OF GENERAL MEDICINE.

In teaching laryngology the instructor should forever bear in mind, and the student should never be allowed to lose sight of, the fact that it is an inseparable part of general medicine—that the pathology of nasal and laryngeal diseases is not an isolated pathology; that the appearance of disease in the upper air-tract is governed by the laws that condition the development and course of disease in general, and that the rational interpretation of these affections presupposes, therefore, the application of general pathologic principles to the peculiar conditions which the anatomic and physiologic functions of the structures involve. Above all, he should remember that peculiarity of structure is not anatomic isolation; he should remember the correlation of organ and organ, the sympathy of tissue and tissue which makes up the perfect physiologic life of man. In looking upon the subject from the high vantage ground of general pathology and laws of health, the student is in a better position to apprehend the rôle which external and internal influences play in the evolution of disease of the respiratory apparatus, than if he viewed the subject from the level of a narrow specialism or from the standpoint of the mere empiric.

FRATERNITY AND CO-OPERATION AMONG THE DIFFERENT DEPARTMENTS OF MEDICINE.

Laryngology should not be studied apart, but kept in constant and closest contact with all the other departments of the university. Let there be more fraternity among the different specialties—more co-operation. If special workers in the different departments of medicine would, instead of holding aloof from each other, combine the special knowledge they possess in a common endeavor to elucidate the difficult problems which daily confront them, the hostile cry of ignorant criticism, which is so often directed against them, would be forever silenced by their discoveries for the commonweal.

HIGH IDEALS IN THE STUDY OF LARYNGOLOGY.

The study of laryngology will never reach the full fruition of its hopes and aspirations until it becomes the inspiration of a higher effort and a loftier ideal.

Let it teach the student not to contract, but to broaden the horizon of his intellectual activities. Let it make him understand that the laryngoscope is not merely a device for exposing hidden recesses of the body and for the demonstration of that which is already known; but an agent of positive power in future research—a means of scientific expansion and exploration of the unknown. Let laryngology walk with becoming humility beside the great pioneer forces of human endeavor, aiding them, it may be, in an humble and unostentatious way, but still contributing to their progress through the trackless wilds of the land that is untrodden and unknown. Undaunted, undismayed, let them together press forward until the wilderness shall blossom as the rose and Nature's wild forest ring with the shout of their exultant discovery. When this ideal shall have been attained and this conception of our art is realized, then will the study of laryngology blaze the way for the triumphant march of scientific medical achievement, and the laryngoscope will become an instrument of progress and power.

Original Articles.

SIMPLE GINGIVITIS, ITS ETIOLOGY AND TREATMENT.*

GEO. T. CARPENTER, M.D.

CHICAGO, ILL.

Disease of the human gums, in these days of advanced civilization, is very common and almost universal. In fact, it is a rare thing to find gums that are in all their margins perfectly free from irritation, inflammation, hypertrophy, atrophy, or absorption, and many will show evidence of gingival ulceration. At three previous meetings of this Section I have presented papers closely connected with the present subject. The conditions then studied were the result of advanced inflammatory or suppurative processes; but by the term "simple gingivitis" I include only that condition of the gum margin about the necks of the teeth, known as the gingiva, that shows the slightest departure from health, but is fully established and persistent in its nature. It is the purpose of this paper to take gingival irritation in its simplest form and point out its etiology and treatment, and in this way prevent the subsequent and more serious diseases, which by their certain progress result in pain, discomfort, loss of tissue, and eventually the loss of the teeth themselves. Gingival irritation is liable to present itself at any point where there is a gingival margin. We may find the gingiva of one tooth inflamed and the rest of the gums in a healthy condition. We may find the anterior teeth in a clean condition but affected by gingivitis, while in the posterior teeth, which receive less care, the gums may be in good, healthy condition. We may find gingivitis in some, or all, the gums in well-kept mouths, and we may find exactly the same condition of gums in mouths that do not receive the slightest care or attention. We will find this form of inflammation in the mouths of the young, those in middle life and old age. We will also find it in the anemic and emaciated, also in the well-nourished and rugged. This condition, which is found in the human mouth, is rarely found in the mouths of lower animals in their natural state, and from some experiments on the gingiva of rabbits I find that it is almost impossible to establish a gingival irritation without using some powerful infections or poisonous substance. We also find that in the human mouth where bands, clamps, wedges, or ligatures have caused some irritation and even laceration, that a gingivitis does not as a rule result, so that the etiology of this apparent slight trouble is varied and very obscure. The etiology or local causes: Irregularities and malocclusion are factors; also imperfect or loss of contour; improper use of the teeth or, more correctly, insufficient use of the teeth, causing lack of tone to the gum; inor-

* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

ganic substances used as dentifrice, causing unnatural or insoluble deposits under gum margins, which is most common in the lower jaw; the injudicious use of toothpicks; floss and rubber bands, keeping constant irritation at given points.

Constitutional Causes: A defect in nutrition or cachectic condition may cause an isolated gingivitis at a given point, just as the same condition may produce an aphthous ulcer at any point on the mucous membrane of the mouth. The same cause which results in dyspepsia, constipation, sick headache, dyspnea, and a host of other symptoms, also cause gingivitis.

Improper Nourishment: This is often the result of too much preparation of food for the teeth and stomach. Plain, coarse, wholesome food that will give the teeth something to do will act as a proper stimulus to the gums and will be kindly received by the stomach. The colored people at the close of the Civil War had mouths with healthy gums and teeth free from caries, but higher civilization, mingled with hotel and restaurant cooking, has so changed conditions that their mouths now are filled with both caries and disease. Careful examination of the mouths of many of the peasants emigrating from Europe, have led me to believe that the care of the mouth should be principally through the stomach and a thorough use of the teeth by mastication of food.

Treatment: Correct all mal-occlusions and restore perfect contour to crowns. Remove all local irritants and deposits and make a light application of tincture of iodin to affected parts and give instructions to prevent irritation and abuse of gums; change diet from mashed vegetables of all descriptions or soaked or cooked in milk to that of dry or Swedish toast, whole wheat, or grape-nuts; to be ground thoroughly fine with the teeth, incorporated with the saliva and swallowed. This treatment should be followed, especially with children suffering from gingivitis.

I am indebted to Dr. M. H. Fletcher, of Cincinnati, for the suggestion of corn-meal as a dentifrice. I think as a partial substitute for thorough mastication that a good cereal dentifrice is very beneficial, using corn, oats, cream of wheat, or any coarse and grainy substance, and brush the teeth and gums vigorously after each meal and before retiring, giving a half rotation to the brush. The mouth should be thoroughly rinsed after each brushing, as there is some difficulty in removing the cereal. I do not approve of the use of a very stiff brush without a dentifrice, and I consider the place for all inorganic dentifrices is on the outside of the mouth. They may serve a good purpose for cleansing metals and marble, but should not be used on organized tissues.

103 State Street.

DISCUSSION.

DR. G. V. I. BROWN, Milwaukee, Wis.—The essayist states, after describing the simple forms of gingivitis, that gingivitis more often proceeds from the apices of the roots toward the gingival margin than from the gingival margin to apices of the roots. That was the point Dr. Talbot made clear some time ago. He said in our treatment of pyorrhea alveolaris we pay too much attention to palliative treatment. He said he considered our diseased gums from the gingival margin, whereas a mild inflammatory process was going on very much in advance of what we could see with the naked eye. Upon that simple fact I have based what treatment I have attempted ever since, and I think when we realize that, we have got all we need for that which comes directly within our own province. We must admit that every general condition which interferes with the excretory organs in any way will certainly render the tissues of the body more susceptible to the inflammatory process than they would be otherwise. If an interference with these organs in the performance of their natural functions will render the cure of any inflammation more difficult, and contraindications would complicate this state of affairs, so far as we are concerned we have all we can do to take care of the local matter. If we recognize the fact that these inflammatory changes are going on beyond the point we can reach in our treatment, beyond the point our profession is capable of exploring, then we must in some way relieve the local condition, and it is impossible to have a case of pyorrhea where you have that contraindication without having the occlusion of the jaws interfered with, and you can not cure that condition locally as long as the occlusion of the jaw is imperfect, and by this irritation of the surface you continually increase that inflammatory condition in spite of all you can do. I will probably bring down a storm of scientific criticism upon my head, but if I can not do more than to bring out the valuable point Dr. Talbot brought out years ago, I shall be satisfied.

DR. EUGENE S. TALBOT, Chicago—I am very much pleased with the conclusions of the essayist and the remarks by Dr. Brown. I am glad Dr. Brown has given this subject so much attention since I first outlined the pathology of this trouble. Both essayist and Dr. Brown are correct. Dr. Carpenter has taken up the local condition and causes of the diseases, and Dr. Brown has taken up the constitutional side of the question. There are certainly two factors in producing simple gingivitis, the local and the constitutional. I must, however, go back further than either of these gentlemen in order to get to the real condition and cause and that is the point where individuality must obtain treatment. Transitory structures are involved and the fact must not be lost sight of that the jaws and teeth are passing from a large and strong jaw to an extremely weak one; these changes are going on very rapidly, indeed, with our present mode of living. Dr. Carpenter said in his paper that the lower animals are not involved in this change in their "natural or undomesticated" state. These structural changes go on in domesticated lower animals as they do in man. Dogs have undergone a change, as Dr. Kiernan said yesterday, in certain structures the same as man. Gingivitis occurs in horse and cow in the fall of the year when the animals are taken from the pasture to the stable. The horse after being put in the stable will catch hold of the manger and pull with his teeth making a piping sound. This indicates there is irritation in the gums with resultant inflammatory action. The same is noticeable in the cow in trying to grind her teeth. In transitory or unstable structures inflammation sets in quicker than in any other structures. This is true alike of the appendix and the jaws and teeth. Wherever these changes occur in the systemic condition from disorders like indigestion or diseases such as typhoid fever, it is manifested here. Especially is this true of little children. I have noticed particularly in degenerates, such as in the deaf, dumb, blind and idiots, that there is marked inflammation of the gums. So the abnormal condition of the structures must not be unheeded in the treatment. A writer in the June *International Dental Journal* of Boston claims that the gum should not be massaged. He has a brush composed of badger's bristles, a very soft brush. He claims that if at all only a very mild massage should be done and the fingers should be used. The opposite from actual experiments seems to me alone justifiable. The essayist states that a very strong brush should not be used; I should use the stiffest brushes upon the gums. It is not the gum that is being injured as the alveolar process is absorbing away; it is the interstitial tissue. The gums become involved, but there is no danger of absorption. The blood is forced out of the gums and they contract to secure a healthy alveolar process. Absorption of the gum is not the danger, but absorption of the alveolar process. The gums contract down to it. The gum should be massaged with a stiff brush and tincture of iodin should be used to reduce this inflammation. Inflammation takes place in nearly every patient. The blood shows that pathologic conditions have set in. To reduce the gums to their healthy condition, use a stiff brush and massage them three or four times a day.

DR. VIDA A. LATHAM, Rogers Park, Ill.—When we speak of

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simple gingivitis, the majority of people consider at once pyorrhea alveolaris! Let us take a case for example: A woman comes to your office, an apparently healthy case, perhaps the mother of a family. Her general history is good but she may be a little anemic. She has a magnificent set of teeth, but we meet with a little discoloration of the gums. What is it? It is nothing more nor less than the outcome of simple gingivitis. I do not care to hear anything about the pyorrheal condition, or whether it is a passive or active congestion, or if by pressing with the finger you can get blood or pus, provided it has reached the suppurative stage of the inflammatory condition. That is not the point. We mean simple gum infiltration. Therefore, I would like to have somebody go back to the beginning and give us the early stages of what may become sooner or later interstitial gingivitis. For example, here is a case of lung disease. Is it pneumonitis? You may have it in the upper lobe or the second lobe or all the lobes, but it may enter upon resolution, clearing up everything and the parts return to the normal. If you get a pneumonitis and it does not all resolve you may then get an increase of fibrous tissue, which would be called a cirrhosis or interstitial or fibroid pneumonia; you may have an increase in size or a decrease and the result is the same; it is a thickened sclerotic condition. It is this distinction which I think our dental pathologists have confounded with the later stage. When we are called upon to treat this early simple irritated state we fail to recognize or treat it previous to its entry into one of the most serious and advanced terminations of inflammation. It may certainly become fibroid, abscessed, ulcerated or even gangrenous. I prefer to ask you to deal with the simple congestive or irritated condition which is the early simple gingivitis even if recession be present, or swollen edematous puffy tissue of the gums so well known in unclean mouths. Here is a child that is degenerate, but the simple and interstitial inflammation is not necessarily a degeneration. I think our dental pathologists are very lax in this matter. We have different forms of gingivitis, some are chronic, some are acute. The gum has receded, there is a great deal of hyperesthesia, a continual irritation, everything the patient touches makes the teeth ache. I would like to have a remedy for this early condition. I have several cases on hand which I do not know how to treat. I have tried massage, local and general treatment; I have cleansed the teeth. I have used anesthesia to find salivary calculi on the roots and I can not find much wrong. These are cases I wish a special classification for. Why should we not have early simple as well as the chronic or interstitial gingivitis with recovery. This is a condition I would like to bring to your notice and ask for a remedy as well as for more research into this, the very beginning of the disease, and so prevent the loathsome and dreaded "pyorrheal states" and its recession or absorption of the alveolus as illustrated so ably by Dr. E. S. Talbot in his work on so-called "Pyorrhea Alveolaris."

DR. G. V. I. BROWN, Milwaukee, Wis.—The trouble is we have taken too narrow a view of this matter. In pyorrhea or gingivitis, when you come to cut off the state of inflammation and classify under one name or another a condition which to-day may be one thing and to-morrow another, you are making a classification which will not stand, but this distinctive condition which we recognize as pyorrhea is simply one form of the condition which we have brought to our notice as dentists. An inflammation may be destructive or constructive. We have just as frequently in some cases a condition which causes a change in the pericementum. This is evident to us, particularly when a tooth is attempted to be extracted. The process comes away with it; there has been a change in the membrane, that which has formed this union of the surrounding bone to the pericementum in a way that has become almost inseparable. Under these conditions we find many patients. A large number of the chronic neuralgias come from this condition of the membrane. In addition to this, we have certain structural changes in the dental pulp itself. These changes all occur as the result of some nervous disturbance due to the excitement of the centers which control the muscles of mastication. They continue working and grinding, which causes a local and general disturbance which is greater than we have any idea of. I think I have a half bushel of casts showing the stress due to habit, and in these cases sometimes a paroxysmal pain occurs every few minutes and continues for years until the patient is a physical wreck. I have a number of cases now that have had to be cared for as a result purely and simply of this habit. Again we have a pyorrhea which we recognize easily, and we have pulpitis due to the loss of the surrounding tissue. But these conditions due to the same causes aggravate all these other conditions, because when the excretory organs are out of order the nervous conditions are worse. Taken in its broad sense there is no longer any question as to the marked etiologic factor in pyorrhea. The way to all this has been made clear by Dr. Talbot.

DR. A. E. BALDWIN, Chicago—Before this subject is passed, I want to claim that I believe that these gentlemen have been discussing something else than the paper. The paper is on the subject of simple gingivitis, simple inflammation of the gingiva or gum. You must not say in an assembly of sane people that you can have a simple inflammation and have it absorbed by the body. I do not think any sane man would make such a statement. I may say to you that I learned years ago in the medical college that there could be simple inflammations, and the meaning of the word "simple" is "without complications." We may have simple inflammation of the lungs; we may have simple inflammation of the pleura; we may have simple inflammation of the gums, and when anybody gets up before this Section and says the best way to quiet an inflammation is to jump on it, to tread on it, to strangle it, to scarify it, it seems to me wrong. I think oftentimes with some of these local irritations we are not discussing interstitial, but we are discussing simple gingivitis. The amount I do not know about a great many of these subjects would fill a book, but there are some things I feel I do know, and I know that simple gingivitis is simply an inflammatory process of the gum itself, not complicated with suppuration, not complicated with anything, but just what the name means. About as good a plan as you can follow is to give the part rest, quietude, something soothing. I believe that is our first duty. There may be complications that may be treated and treated wisely, but it seems to me this talk has been largely upon a question that is far from the paper as read.

DR. GEORGE T. CARPENTER, Chicago—I would like to say a word in closing in regard to the word "simple." It was my intention by the use of this word to include only the gingivitis in its simplest form and to avoid "interstitial gingivitis," or pyorrhea alveolaris. It was distinctly understood that the term "interstitial gingivitis" should not be used so as not to have the subject misconstrued. I stated certain conditions as not coming under the head of this paper, but emphasis was placed on the simplest conditions. This does not even result in ulceration in many cases, but it is simply an evidence of that slight affection of the gingival margin that does not get well. These conditions lead on to something more serious, and what we are trying to do is to get at the cause and treatment of this condition. Dr. Brown speaks of the local causes, but I spoke of the constitutional causes. A constitutional cause is directly responsible for this condition. As I said in my paper, it is almost an impossibility to establish this condition unless there is a departure from health. There may be no sign of anemia, but where there is a departure from health or a disturbance of the circulation we establish gingivitis.

In speaking of the animals in their natural state, I did not take into consideration dogs, horses and cows for the reason that they are domestic animals and are fed by man. I mean the wild animals, and I have never found a case of gingivitis in wild animals. There may be cases, but not as a rule. It is under this artificial condition only that we find gingivitis.

In reference to the tooth brush, its use is simply applying Nature's cleansing materials to the mouth. We are not chewing inorganic substances. Our teeth are only intended to masticate vegetable and animal substances, and through contact of these substances to the teeth and gums is Nature's process. That is the reason I object to the use of the stiff tooth brush. I think it is an unnatural process, and I depend

upon the cereal more than the stiffness of the brush. The object in this is to give tone to the gum. What we want is to stimulate the blood supply, and we do this with a cereal carried on a tooth brush, which partially takes the place of the failure to properly masticate proper foods.

We see defects in the teeth that we know are only slight, but that will in our judgment become more serious; and we urge the necessity of these defects receiving prompt attention. We do not place the same importance to defective conditions or disease of the gums. That is why there are more teeth lost in this condition than from caries. As long as a tooth is perfectly sound there is no need of the dentist, but as soon as we see any changed or defective condition we should always be serious with our patient and explain the danger. When the gums are diseased there is something the matter with them, just as much as if there were a dozen cavities in the mouth, and no dentist would allow decay to go on. They would call it imperfection of the teeth. This is simple gingivitis, and it is growing worse instead of better and will ultimately result in the loss of those organs. We want to sound a warning and educate our patients up to this fact and give them to understand that we mean exactly what we say, and the loss of a few teeth with an explanation will probably result in an education that will do much good.

DR. R. R. ANDREWS, Cambridge, Mass.—I have had considerable discussion with Dr. Sargent on the want of use of the teeth by children. It is a fact that children eat too much of soft mush; they do not use the teeth enough, and although it is a very disagreeable habit, I think there would be an improvement of the teeth if the children were encouraged to chew gum. There is no question but what the chewing of gum is a good stimulative process and puts the teeth in a good, healthy condition. Our children do not live right. They are fed on these soft materials and their teeth do not have the use they were meant to have.

There is another thought that occurred to me. Dr. Williams has, without any doubt, demonstrated that there is in the mouth, more particularly on those teeth where the mouth is full of decay, a microscopic form of germ. He has demonstrated that this micro-organism, the leptothrix bacillus, is constantly going to the extremity of the roots, myriads upon myriads. Let any one have a patient take a little iodin and put it around the teeth. I have had patients come to me and ask how they should keep their teeth clean. I told them to brush them morning and night and put a little iodin on and they will be surprised at the result. I think great good comes from the treatment as practiced by Dr. D. D. Smith, of Philadelphia. He takes a piece of orangewood of a V-shape and goes around the teeth inside and outside the occlusal surface. Dr. Smith makes the astounding statement that bad breaths are cured, that a pyorrhea alveolaris is cured. Dr. Smith has under his care a patient who has been treated for two years for pyorrhea, and he has recently been using this treatment, stimulating the gums with this stick, going under the gums as well as cleansing them thoroughly, and he made the statement before the Boston Dental Society that he had never had so much success as he has had with this method after using it only three months. There is certainly something in that. These germs are hidden under the gum, but this stick goes all around and under the gum, thoroughly cleansing it, and in that way he gets rid of a great deal of this injurious matter.

Orthoform Test for Gastric Ulcer.—Mennini states in the *Riforma Medica* of May 18, that it is possible not only to differentiate a gastric ulcer with orthoform, but also to determine its location. After ingestion of one gram of orthoform dissolved in half a glass of water, the pain from an ulcer vanishes in twenty minutes, and does not reappear for three or four hours. The analgetic effect is not experienced in certain cases unless the patient lies in the ventral or dorsal decubitus, according as the ulcer is located in the front or rear wall of the stomach. The orthoform has no effect in cases of simple gastralgia with the mucosa intact. The pain continues uninfluenced by it.

MILITARY DENTAL PRACTICE—ITS MODIFICATIONS AND LIMITATIONS.*

HENRY D. HATCH, D.D.S.

NEW YORK CITY.

What shall the new military practice consist of? What are its limitations and modifications, and how must the conservative civil practice be modified so as to best serve the interests of the army and the individual soldier? These are the questions with which it is the province of this paper to deal.

There are certain branches of dentistry which to-day, as it exists, it would seem wise to eliminate altogether, namely, prosthetic dentistry, orthodontia, crown and bridge work, and gold filling.

Prosthetic dentistry would be impracticable for the following reasons: 1. The appliances necessary for the construction of artificial dentures are cumbersome and would add that much more to an already overburdened transport service. 2. The time required to do such work is more than could be spared, owing to the few surgeons assigned to the service.

That orthodontia would have no place in military surgery is self-evident to any dental surgeon.

Crown and bridge work would hardly be feasible, except, perhaps, at certain army posts, for the reason that to be of any value it must be done with a certain nicety requiring much time, many additional instruments and much expensive material.

Gold filling is placed in this category for much the same reason. Gold filling, to be of any value, must be done under the most propitious circumstances, requiring a good chair, good assistants, dry, clean surroundings, many fine instruments and plenty of time; the item of time is the most important in this case, as, with the present limited number of surgeons, to give the necessary time to one man would probably rob others of needed attention.

Eliminating, then, all the above, there still remains work enough for the most energetic and able men.

THE OUTFIT.

Let us now briefly glance at the positive side of the question. Other things being equal, the dental service will be popular in the army, as it takes up little room, demands few transportation facilities, and adapts itself to the prevailing conditions easily and uncomplainingly. The outfit, then, should be as small as is consistent with good work; everything should be snugly packed and capable of being unpacked and packed again in the shortest possible time. One of the lessons taught by the Boers in their struggle for independence is that the modern army must return to the practice of Julius Cesar, where luggage was reduced to the minimum. A portable headrest attached to an ordinary chair would have to take the place of the ordinary dental chair, except at regular army posts. Anesthetics could be given on the operating table of the general surgeon, or on a cot bed. The instrument case could be mounted on a tripod or a table, and made to take the place of the usual cabinet.

An instrument sterilizer should, by all means, be made a part of the outfit, such as a Schering formaldehyde sterilizer, or the smaller one as modified by Dr. Stanton of New York, or the formaldehyde sterilizer devised by Dr. Low of Buffalo, which is perhaps more cheaply and easily operated.

* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

Formaldehyde gas must prove to be the ideal sterilizing agent in military as well as civil dental practice. It requires a very small quantity of spirits to generate the gas. As previously pointed out to the profession by the writer, boiling is the cheapest and most ready method of sterilizing where the nature of the instruments and appliances admits of boiling; but with dental instruments we have the mirrors, which can not be boiled; also corundum wheels, engine hand-pieces and many other things. But whatever the method, it is to be hoped that the dental surgeons will not lag behind the general surgeons in this respect.

OPERATIVE DENTISTRY.

The dental surgeon will at first be most often called upon to relieve pain, either by extracting or treating exposed pulps, alveolar abscesses, etc., and here is where the high character of the men selected by our excellent examining board will have a chance to show itself, and prove to the army and the nation that the modern dental surgeon is something more than a mere tooth-puller.

Extracting may have to be done more often than in civil practice; but by using good judgment and adopting means adapted to the exigencies of the service, extracting may be reduced to the minimum.

Certain pulpless molar teeth, which in private practice would be sterilized and filled to the ends of the roots, might be saved by using some of the mummifying methods—preferably Miller's—always with some filling over it that could easily be taken out, if need be, and the pulp chamber and canals redressed. In certain cases, extracting might be avoided by opening into the pulp chamber at the cervix and waiting until the case could have more thorough treatment. At any rate, root-filling should not be attempted unless the operator has the time and the facilities to do it thoroughly.

In the minds of the laymen, or the common soldier, "nothing succeeds like success," and in the first years of this experiment (for such it is evidently considered by the government) it will be well to undertake nothing which does not promise to succeed.

In extracting and other surgical work it is to be hoped that anesthetics, either local or general, will be used as they would be in civil practice. Even a soldier ought not be called upon to endure more pain than is necessary. Besides, many will be either in the hospital or on the verge of it, when rough treatment and shock might be the last straw. Any tendency to become brutal or rough on the part of the dental surgeon should meet with prompt rebuke or dismissal from the service.

The dental surgeon will have plenty of opportunity to observe and treat diseased conditions of the soft and osseous tissues surrounding the teeth. If they are carefully observed and accurate records kept, much will be added to our meager knowledge of these conditions. The dental surgeon will see conditions caused by both mercury and the need of mercury, and perhaps will be able to get truer histories in the army than out of it.

That dental surgery merges into oral and general surgery, so that a dividing line can hardly be drawn, goes without saying. Hence, it is to be expected that the dental surgeon will have much to do with fractures and gunshot wounds involving the maxillæ. The use of interdental splints made of vulcanite or swaged metal would hardly be applicable in military practice for the reason given above concerning prosthetic work. In their place there could be substituted something after the Angle system of easily adapted bands and ligatures, or an easily made splint consisting of metal bands connected by hard solder to heavy platinum and gold, or iridio-platinum, wire—the piece made loosely fitting on a cast gotten from a modeling composition impression, and cemented in place. An interdental splint, in many instances taking the place of vulcanite, may be made quickly and easily by cooling and trimming two side "bites" of modeling composition. In cases of resection of a considerable portion of the inferior maxilla, such a side "bite" of modeling composition, put in place immediately, answers an excellent purpose.

IDENTIFICATION BY THE TEETH.

For the purposes of identification, after disaster by fire or flood, or other causes, where clothing is destroyed or the soft parts decomposed, experience has proved that identification by the teeth is the only reliable one. The condition of the bodies after the disaster to the battleship *Maine*, and after the catastrophe of Bazar de la Charité in Paris, May 4, 1897, and in many other instances, prove this. Therefore, it is urged that the Government be memorialized to the effect that all officers and men in the army and navy, and all who shall be mustered into the service, shall have charts and casts made of their teeth by the dental surgeons of the army, or others appointed for the purpose, such charts and casts to be properly inscribed and filed with the proper departments for reference in case of death or desertion.

It would seem that with the training the dental surgeon has received in aseptic methods and in minor surgery, he might be an excellent assistant to the general surgeon in emergencies, after batties, etc., thereby tending to promote mutual regard, and a better understanding between the two professions, now separate, but destined to become one.

OPENING DISCUSSION ON "MILITARY DENTAL PRACTICE—ITS MODIFICATIONS AND LIMITATIONS."*

JOHN S. MARSHALL, M.D.
PRESIDENT EXAMINING BOARD DENTAL SURGEONS, U. S. ARMY.
ST. PAUL, MINN.

The passage of the Army Reorganization Bill with its section creating a Corps of Dental Surgeons for the U. S. Army, makes an epoch in the history of modern dental surgery; an epoch which has never had its counterpart before in the history of the world, the influence of which is destined to be far-reaching in its beneficent results, and of great importance in the elevation of our educational and professional standards.

When we take into consideration the fact that modern dentistry covers, in its growth and development, a period less than the lifetime of many individuals, we have good reason to be proud of its achievements. Sixty years ago there was no such thing in existence as a dental college; a dental journal had not been thought of, or a scientific dental society organized. The practice of dentistry at this time was, with few exceptions, in the hands of the barbers and blacksmiths. The few earnest scholarly men who had entered its ranks were desirous of lifting their specialty out of its low estate, and by education and scientific training make of it an honorable and worthy calling. In this endeavor, however, they met with no encouragement at the hands of their confrères in the medical profession, but, nevertheless, with these great odds against them, engendered, not by malice, but by the narrow view taken by those unfamiliar with the capabilities and possibilities of devel-

* See preceding article.

opment which lay in this infant specialty, they moved forward and laid the foundations of what has proved to be one of the greatest specialties in the whole field of medicine.

We have special reason for congratulation also in the fact that the Congress of these United States was the first legislative body in the world to formally recognize the *value* and *need* of the beneficent services of our specialty as a department of military medical practice, and that we have been given an opportunity to prove the wisdom of its action to our country and the world.

The whole question, however, of placing dental surgeons in the Army was looked upon by many of our national legislators in somewhat of the light of an experiment, and in a certain measure this is true of the War Department and of the Surgeon-General. For this reason, when the bill was framed it was thought best to provide for the organization of the dental corps upon the contract system, as by this system it would be an easy matter to discontinue it if it should prove unsuccessful; while upon the other hand, if its service was a success, and found to be an indispensable part of Army medical practice, the Corps could be made permanent by amending the law so as to make its members commissioned officers.

The examinations of the Dental Corps and the selection of the outfits have been placed in the hands of an Examining and Supervising Board of Dental Surgeons, subject to the approval of the Surgeon-General and the Secretary of War. These officers have invariably sustained the Board in all of its work; have given them every facility asked for, and rendered every assistance possible in planning the organization of the Corps and insuring its future success in the field.

European nations will be interested in the plan of organization of our Army Dental Corps, of its personnel, and the results of its professional services. Upon the success or failure of this enterprise will depend in a large measure the introduction of a similar service into the armies of other nations. It is to be hoped, therefore, in the interests of humanity that it may prove successful.

I have been interested in reading the paper of the essayist, and feel like complimenting him upon his apparent grasp of the subject under discussion. His suggestions as to the modifications and limitations of military dental practice are in many respects good, but it will not be necessary to confine Army practice within such narrow limitations as he has outlined.

The general suggestions which he has made and many more of a specific nature have formed the subjects of much earnest consideration upon the part of Surgeon-General Sternberg and the Examining and Supervising Board, and not until each question has been carefully weighed and the consequences of its adoption or rejection examined from all standpoints, has final action been taken. The progress of organization has been necessarily slow, for there were no established precedents to guide the Board in its actions, and no past experience to enlighten it. It has, therefore, been obliged to begin its work at the very foundation, striving to lay this *firm* and *sure*, and then gradually to rear upon this the superstructure of a finished organization. The organization of the Dental Corps is yet in the experimental stage; the authorities must therefore carefully feel their way and adapt the service to the peculiar demands of military life and movements, making such changes from time to time as experience and foresight shall dictate.

With the approval of the Surgeon-General, I herewith present in brief outline the plan upon which the Army Dental Corps is organized. This outline comprises:

1. The official status and pay of the Army Dental Surgeon.
2. Examination of candidates.
3. Assignment to duty.
4. Regulations governing the Dental Corps.
5. The supply table.
6. Nosological table and system of keeping records.

THE OFFICIAL STATUS.

The Army Dental Surgeon belongs to the regular establishment, and according to the law which created the Corps, he will serve the officers and enlisted men of the regular and volunteer armies. He is employed as a Contract Dental Surgeon, having the *relative* rank of a first lieutenant. His pay is $150 per month, and quarters when serving with troops. All instruments, apparatus and materials are furnished by the Medical Department that are necessary for conducting his practice and performing his official duties.

THE EXAMINATION OF CANDIDATES.

The examinations consist of *a*, physical condition; *b*, written and oral questions upon the studies of the dental college course; *c*, practical demonstrations in operative dentistry; *d*, practical demonstrations in prosthetic dentistry.

a. The physical examination is conducted by an army surgeon detailed for this purpose, and upon the same general lines as those in vogue for entrance into the other departments of the Army. Perfect health and freedom from physical defect are necessary to pass this examination; but defective eyesight which can be corrected by appropriate glasses does not debar the candidate.

b. Written and oral examinations are conducted upon the following-named subjects, and the candidate must attain a general average of 75 per cent. upon each of them: Anatomy, physiology, histology, chemistry, physics, metallurgy, dental anatomy and physiology, dental materia medica and therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, operative dentistry, prosthetic dentistry.

c. The practical examination in operative dentistry consists of the following: 1. Examination and recording the condition of the mouth and teeth. 2. Preparation of cavities, 1, by hand instruments; 2, by engine instruments. 3. Instrumentation and technique. 4. Preparation and manipulation of filling materials: gold, tin, amalgam, gutta-percha, oxyphosphate, cement. 5. Insertion and finishing of fillings. 6. Treatment and filling of root canals and preparation of root for pivot crown. 7. Manipulative technique in removal of calcarious deposits. 8. Application of rubber dam, metallic separators, matrices, etc. 9. Diagnosis, prognosis, and treatment of oral diseases. 10. Care of and sterilization of instruments and hands.

d. The practical examination in prosthetic dentistry comprises: 1. Impressions, casts, bite and articulation (occlusion). 2. Construction of denture in vulcanite. 3. Construction of dies and counter-dies from impression to completion. 4. Construction of swaged plate, with metal and rubber attachment. 5. Construction of inter-dental splints. 6. Construction of Richmond crown.

Upon all clinical or practical demonstrations the candidate must attain a general average of 85 per cent.

The reason for this higher requirement in the practical branches is made evident by the statement that practical men are needed in the service, not theorists. But it may also be stated that practical ability alone would be of little value in military dental practice. The dentist to be successful in this new field of practice must be thoroughly informed upon all those subjects and theories which form the foundation of modern dental surgery. He will need to be self-reliant and capable of conducting any case that may come under his especial care, no matter how serious it may be, for he will many times be so located that he can not obtain the advice of a consultant in his specialty; while, upon the other hand, he may be, and that frequently, called in by the post surgeon as a consultant in cases which present oral or dental lesions; or which by reason of certain symptoms the surgeon is led to believe may be dependent upon some obscure dental or oral malady, and upon which he desires an expert opinion to assist him in an intelligent treatment of the case.

ASSIGNMENT TO DUTY.

As rapidly as the candidates have passed the Examining Board they have been assigned to service in the Philippines and Cuba, for the reason that our troops located in tropical climates are in the greatest need of the services of the dentist. When these demands are satisfied in one location the dentist will be assigned to another station and thus moved about from place to place, wherever his services are most urgently needed. The number of dentists is so few, thirty in all, and the army so large, something over seventy thousand, that there is likely to be an abundance of employment for all those who enter this service. The opportunity, however, for a large and varied scientific and practical experience along professional lines, offered by the establishment of the Army Dental Corps, will be very great, and ought to prove a tempting inducement to the really progressive young man.

REGULATIONS GOVERNING THE DENTAL CORPS.

The following regulations having received the approval of the Honorable the Secretary of War, become, with the General Regulations bearing upon officers of the Army, the law governing contract dental surgeons:

Candidates for appointment as dental surgeons must be not less than 24 nor more than 40 years of age. They must be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and prior to appointment will be required to pass a satisfactory professional examination before a board of dental surgeons convened for that purpose by the Secretary of War.

Contracts with dental surgeons will be made for three years, but may be annulled at any time by the commanding general of a military department, after official investigation, for conduct to the prejudice of good order and military discipline, or by the Surgeon-General when in his opinion a termination of the contract would be in the interests of the service.

Dental surgeons are attached to the medical department and will be assigned to duty in accordance with the recommendations of the Surgeon-General of the Army or the chief surgeon of a military department.

A dental surgeon when assigned to a station will apply to the post commander for a suitable operating room. If no other room is available the surgeon of the post may assign him a room in the hospital.

Each dental surgeon will ordinarily be allowed one enlisted man as an assistant, who will be detailed from the acting hospital stewards or privates of the Hospital Corps, and whose duty it will be to assist the dentist in his operations, in caring for the instruments and other public property, in keeping the records, and in the performance of such other official work pertaining to this position as he may be directed by the proper authority to do. When a member of the Hospital Corps is detailed as dentist's assistant he will receive commutation of rations at the rate of $1 daily, and will be provided with a suitable room as quarters by the Quartermaster's Department, except while on duty at a post, when he will be attached to the Hospital Corps or other organization for rations and quarters. Necessary dental instruments and supplies will be purchased by medical supply officers under instructions from the Surgeon-General and in accordance with a supply table to be approved by the Secretary of War.

Dental surgeons will be held strictly responsible for all instruments and supplies issued to them and will be governed by army regulations and orders now in force, or hereafter to be issued, with reference to accountability for government property.

In accordance with the act of Congress authorizing their employment, dental surgeons will "serve the officers and enlisted men of the regular and volunteer army." The families of officers and civilian employees attached to the army are not entitled to their services. In this connection acting assistant surgeons are to be regarded as commissioned officers.

Dental surgeons will operate between the hours of 9 a. m. and 4 p. m. only upon those officers and enlisted men who are entitled to their services. They may operate upon others not entitled to free service before and after these hours when their services are not required by those entitled to them, but material issued to them by the Government will only be used in operations upon officers and enlisted men of the army.

Dental surgeons will not perform any operation upon officers or enlisted men of the army or prescribe medicines for them other than those necessary for the treatment of the teeth and gums. This prohibition does not apply to cases of emergency where no medical officer is within reach, and where a dental surgeon is able to render the necessary surgical assistance to meet the immediate emergency.

Emergency work, whether for officers or enlisted men, should always have precedence. Plate work or restoration of teeth by any method will only be done for those who have lost teeth in the service and in the line of duty. For plate work or filling teeth only the cheaper materials will be supplied, but gold may be used, if the operating dentist sees fit to use it, at the expense of the individual operated upon.

Enlisted men requiring the services of the dental surgeon will, at an hour prescribed by the commanding officer, be conducted to the designated place under a non-commissioned officer, who will take with him and hand to the dentist a list of those reporting for treatment. This list will be entered in a daybook ruled in columns for surname, given name, rank, company, regiment, etc.; all headings to be the same as those borne on his monthly report.

All cases requiring treatment involving future appointment will be so noted, and the others will be marked according to the circumstances, as "treatment unnecessary," "further treatment unnecessary," "should be sent to the surgeon," etc. When future treatment is necessary the dentist will forward a card as follows:

.....19....

The Adjutant,

.....

Sir:—I have the honor to ask that.....be directed to report to me from ....m. to ....m. on ..... instant for treatment. Very respectfully,

.....

Dental Surgeon.

Dental surgeons will submit a monthly report in duplicate (on prescribed blanks) of all official work done by them, giving all required data in every case in which professional services have been rendered. This report will be an exact copy of the register kept for the period. One copy will be sent on the last day of the month to the Surgeon-General and one to the chief surgeon of the department in which the dental surgeon is serving.

THE SUPPLY TABLE.

This table is too long to present in this place, but it may be stated that it includes a portable dental chair and a dental engine, packed in separate cases; burrs, mandrels, stones, discs, etc. Excavators, chisels, scales, plastic pluggers, gold pluggers, rubber-dam clamps, clamp forceps, dam punch, extracting forceps, elevators, steam sterilizer, etc., in fact all of the instruments and adjuncts that are really necessary to perform any operation upon the teeth, except for crowns and bridges. Each outfit contains medicines and supplies of filling material sufficient for three months' service. The smaller instruments and the supplies are packed in two strong cases, arranged with trays and receptacles to hold the instruments and supplies in place. The whole outfit when cased and crated weighs about 450 pounds. To protect the cases from rain and dampness they are enclosed in canvas covers. The general hospitals, and such other posts as may be designated by the Surgeon-General, will be furnished with an additional outfit, consisting of a regular office operating chair, Allan bracket, cuspidor, instrument case, extra extracting forceps, and a full laboratory outfit for constructing vulcanite plates, swaged metal plates, interdental splints, crowns and bridgework.

NOSOLOGICAL TABLE AND SYSTEM OF KEEPING RECORDS.

The ordinary system of keeping records in civil practice, by means of charts, could not be employed in military practice, for the reason that it would occupy too much space. As a substitute for this the following system has been devised and has received the approval of the Surgeon-General:

DISEASES AND INJURIES OF THE TEETH AND MOUTH.

Abrasion (mechanical).
Abscess of the jaws (associated with impacted teeth).
Calcification of the pulp.
Caries.
Cysts of the jaws (associated with devitalized teeth).
Dento-alveolar abscess.
Erosion (chemical).
Fractures of the teeth.
Hemorrhage (following extraction).
Hypertrophy of the pulp.
Hypertrophy of the gums.
Hypercementosis.
Necrosis of the teeth.
Pericementitis, acute.
Pericementitis, chronic.
Pulpitis, acute.
Pulpitis, chronic.
Pyorrhea alveolaris.
Resorption of the alveolar processes.
Salivary deposits.

Note: The duties of the dental surgeon will ordinarily be confined to the treatment of such cases as are directly associated with the teeth and gums; but occasions may arise when his services would be required as a specialist in the treatment of diseases and injuries of the mouth and jaws, such as cysts of the salivary ducts, empyema of the maxillary sinus, fractures of the jaws, gingivitis, necrosis of the jaws, facial neuralgia, stomatitis and tumors of the gums and jaws, etc.

CLASSIFICATION OF THE TEETH.

1. Superior Central Incisors.	9. Inferior Central Incisors.
2. Superior Lateral Incisors.	10. Inferior Lateral Incisors.
3. Superior Cuspids.	11. Inferior Cuspids.
4. Superior 1st Bicuspids.	12. Inferior 1st Bicuspids.
5. Superior 2nd Bicuspids.	13. Inferior 2nd Bicuspids.
6. Superior 1st Molars.	14. Inferior 1st Molars.
7. Superior 2nd Molars.	15. Inferior 2nd Molars.
8. Superior 3rd Molars.	16. Inferior 3rd Molars.

In designating the teeth, and in recording all operations upon them, the dental surgeon will indicate the tooth by the following plan, using the letters R. and L. to designate the right and left sides, and the figures 1, 2, 3, etc., to designate the tooth. Examples: R. 1, Right Superior Central Incisor; L. 14, Left Inferior First Molar.

CLASSIFICATION OF CAVITIES.

Simple cavities on exposed surfaces.

Incisors and Cuspids.	*Bicuspids and Molars.*
A. Labial.	D. Morsal.
B. Lingual.	E. Buccal.
C. Morsal.	F. Lingual.

Simple Approximate Cavities.

Incisors and Cuspids.	*Bicuspids and Molars.*
G. Mesial.	I. Mesial.
H. Distal.	J. Distal.

Compound Cavities.

Incisors and Cuspids.	*Bicuspids and Molars.*
K. Mesio-labial.	R. Mesio-morsal.
L. Disto-labial.	S. Disto-morsal.
M. Mesio-lingual.	T. Morso-buccal.
N. Disto-lingual.	U. Morso-lingual.
O. Mesio-morsal.	V. Mesio-disto-morsal.
P. Disto-morsal	W. Bucco-linguo-morsal.
Q. Mesio-disto-morsal.	

In recording all operations of filling the teeth, the cavity will be described by the dental surgeon according to the preceding classification, using the letters A, B, C, etc., to designate its location.

Example: A Simple cavity in labial surface of an incisor or cuspid tooth. I—Simple cavity in mesial surface of a bicuspid or a molar. V—Compound cavity in mesial, distal and morsal surfaces of a bicuspid or a molar.

Classification of Filling Materials.

Tin,
Amalgam,
Oxyphosphate,
Gutta-percha.

The kind of filling material employed will be indicated by using the first letter of the word designating that material.

Example: R. 5 Q. A. Tooth, right superior 2nd bicuspid; cavity, mesio-disto morsal surfaces. Filling material, amalgam. If a combination filling is employed it will be designated by the first letters of the words designating the materials used. *Example:* L. 7. S. G.-O. Tooth, left superior 2nd molar; cavity, disto-morsal surfaces. Filling material, gutta-percha and oxyphosphate cement.

Exception: The only filling materials furnished for the use of the dental surgeon by the Medical Department are those enumerated above. Gold, however, may be provided by the dental surgeon and inserted for those officers and enlisted men who are willing to reimburse him for its cost. The minimum fee to be $1, and the maximum $2, for such filling.

In recording operations made with *gold* the full word should be written out.

Other operations upon the teeth will be designated by a combination of letters, as follows:

Abscess Lanced—A-L.
Calculus Removed—C-R.
Pulp Devitalized—P-D.
Pulp Extirpated—P-E.
Root-canal Filled—R-F.
Tooth Extracted—T-E.
Tooth Treated—T-T.

One hundred of these record sheets are bound in a book, and form the Register of Dental Operations. Each month the dental surgeon is required to send to the Surgeon-General an exact transcript of the Register of the operations performed during that month, upon blank sheets known as the Monthly Record of Dental Operations. These reports are placed on file for future reference. The Register when filled is transmitted to the Surgeon-General and also placed on file.

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These records will form an important means of identification in casec of death or desertion, while to the Pension Office they will prove of value in passing upon those applications for pension which are based upon the loss of teeth while in the service of the United States Army.

They will also prove to be of immense value from the scientific standpoint, in efforts to settle the questions of the relative prevalence and spread of dental caries among men who have been selected for military service, because of their perfect physical condition; as compared with men in civil life. Of the relative increase in this disease, resulting from physical and nervous strain of severe campaigns, and of residence in tropical climates. Of the causes and prevalence of pyorrhea alveolaris, gingivitis, stomatitis, and kindred oral affections.

It will be noticed by the Regulations governing the Army Dental Surgeons and the rules laid down by the Surgeon-General, that the only filling materials which will be furnished by the government are tin and the *plastics;* but the dentist is not prohibited from using gold, if the officer or the enlisted man is willing to reimburse him for the material used. (This material he must carry with him at his own risk.) In fact, he is encouraged to use gold by being furnished with instruments and appliances with which to perform this class of operations. He is, furthermore, furnished with an acting hospital steward, whom he is expected to train as an assistant. With such intelligent assistance as this, there is no reason why as good gold fillings may not be inserted by the military dental surgeon as by the dentist in civil practice.

The character of the service which must be rendered in the field, will of necessity be that of meeting emergencies. Relief from suffering will be the first object of the treatment, and the introduction of temporary fillings to protect the teeth from further decay until a more favorable opportunity can be secured for inserting a permanent filling.

The dental surgeon will, however, as a rule, be located at posts and stations of a more or less permanent character, where he can conduct his practice with as much care and thoroughness as is possible with the civil dental surgeon.

Each field outfit is provided with a quantity of modeling composition and impression trays, so that fractures of the maxilla can be treated temporarily by interdental supports made from the modeling composition, while the patient is being transported to the general hospital, where facilities will be found for constructing any form of interdental splint or other mechanical apparatus that might be indicated.

The army dental surgeon is expected to confine his professional services to the treatment of the diseases of the teeth and their associated parts, but the regulations provide that in cases of emergency, when no surgeon is present, he may, if competent, render any assistance that the case may demand.

The dental surgeons located at general hospitals and large posts will be furnished with as good and as complete an outfit for a general dental practice as is found in the offices of the best civil practitioners. At such stations the dental surgeon will have frequent opportunities for the treatment of cases in orthodontia for the children of the officers of the station, or inserting crowns, bridges, and artificial dentures, for the officers and enlisted men, and for their families; while the general hospitals will furnish a certain number of cases of fractured maxilla, that will need to be treated by the construction and insertion of some one of the various forms of interdental splints.

From the foregoing pages it will be seen that the War Department, through the recommendations of the Surgeon-General, has provided for the care and the treatment of the dental and oral diseases of the Army in as thorough and as scientific a manner as is possible under the exigencies of military life and movements. Experience, however, may make it necessary to institute certain changes and modifications in the present system of service, and when such action is proved to be essential to the welfare of the army and an increased efficiency of the Corps, there is no doubt but that the proper authorities will immediately institute such changes and modifications.

DISCUSSION ON MILITARY DENTAL PRACTICE.

DR. A. E. BALDWIN, Chicago—I have been very much interested in this branch of our professional world ever since the talk of its organization in the army has been before us, and especially have I been interested the past year when active steps have been taken towards carrying out this plan. I was pleased with Dr. Hatch's presentation of the subject, and I am much pleased with the discussion, or rather the supplemental paper, given us by Dr. Marshall in connection with this. I feel and have felt from the beginning that the profession at large would be very well represented, in fact, better represented by Dr. Marshall on that Board as an organizer of this branch of army life than any man I know. I have known him for a great many years and sat under his instruction years ago as a student. I have never seen a man who would grasp, arrange and organize matters in the minutest details like Dr. Marshall, which is shown in this paper. I think the army is to be congratulated, and especially the surgeon-general upon having such a man in his department; I shall look with a great deal of interest for the results of this work.

DR. CHARLES CHITTENDEN, Madison, Wis.—As an examiner of a number of years' experience, it seems to me it would have been impossible at the first attempt for any Board to have laid out a more practical, complete scheme than that presented here to-day. It fills me with admiration and delight. It is a movement in the direction that shows that such men in our profession as have been put into prominence in this way are equal to the occasion. It makes me proud of the fact that we have got such men. I think we are to be congratulated upon the work of this Board as far as it has been carried on.

DR. EUGENE S. TALBOT, Chicago—It occurred to me after that bill was passed that the profession knew very little about the work to be done by the dentist appointed to fill the position in America's new possessions. It is very gratifying to know that Dr. Marshall has received that appointment. The fact that so few men have been appointed or accepted who have applied, augurs well for the standard the Board has adopted. They have already stirred up quite a little commotion in dental journals. Editorials have been written in dental journals and letters have been received showing there is uneasiness. The average dental teacher is of the opinion that all there is of dentistry is simply the filling and extraction of teeth. It is very fortunate for education of the profession that this law has been passed and a number of dentists sent to the field to attend to soldiers. The work of filling teeth is a very small part of the work these dentists are called upon to perform. It has been shown not only in Cuba, but in the Philippines that many diseases, especially gingivitis, affect the jaws of people who suddenly change climate. It is due to the manner the excretory organs are affected by the sudden change of climate, the jaws and teeth become involved, and in a very short time, sometimes in the course of a few weeks, inflammation sets in, the teeth become loose and in many cases drop out. Such conditions appear in the report that Dr. Marshall has made. The fact that a dentist is expected not only to fill teeth and make plates but to perform other duties, ordinarily within the scope of a physician or surgeon, demands that dentists be properly educated along these lines. The average physician has to be posted in the

treatment of those apparently new diseases. A man to treat these cases intelligently must understand general medicine. Just how far a dentist would be allowed the conduct of these cases and give treatment remains to be seen. The conditions shown by Dr. Marshall makes it evident that dental colleges will have to advance their course in pathology and that a four years' course is now necessary.

THE TONGUE AS A BREEDING PLACE FOR BACTERIA.*

H. M. FLETCHER, D.D.S., M.D., M.S.
CINCINNATI, OHIO.

The accompanying photomicrographs of sections of the human tongue show it to be covered with glands, fissures, and spinous processes, the latter slanting at a great angle. It is evident that this surface may hold pabulum and protection for the development and growth of myriads of bacteria. It is possible that cavities in the teeth, and gums diseased from deposits about the teeth, are more prolific, but probably not.

Out of the "seven nutrient media for bacteria in the oral cavity" given by Miller, five are always present on a coated tongue, namely, normal saliva, buccal mucus,

Section of Human Tongue.—X 75. aaa, Filiform papillæ; b, mucous membrane; c, muscular tissue; d, circumvallate gland.

dead epithelium, particles of food, and exudations from diseased gums.

Formerly physicians were very careful about the examination of the tongue, but at present the diagnostic value of its coating is largely disputed. On the other hand, some of the best physicians make the tongue the principal basis of their diagnosis, especially in gastro-intestinal troubles. But the tongue as a breeding place for bacteria is properly attracting more attention at present and cannot justly be ignored.

Van Valzah-Nesbet has said: "The tongue is not a mirror of the stomach, as the ancients supposed, but is a local mirror which reflects only that which comes over its surface."

Dr. A. L. Russell says: "The color is due to the pearly color of the cornified epithelial cells covering the papillæ; to retained particles of food, and the debris of micro-organisms, broken down epithelium and mucus. The color of the organ proper is quite as important as its motions, contour, lesions and coating. It is well to remember that in perfect health there is usually a slight, uniform coating of a whitish color diffused over the entire tongue, and that towards the base of the tongue in the region of the circumvallate papillæ there is always a heavy coating, which is increased with any increase of the normal coating of the anterior portions."

Hare says: "The coating may be black from the ingestion of iron, charcoal, bismuth, ink, berries, cherries, or red wine. It may be stained brown from tobacco, licorice, nuts, prunes or chocolate. It may be yellow from the ingestion of rhubarb or laudanum."

F. Forcheimer says: "In some cases the tongue is of great clinical importance and in many others its examination for diagnostic purposes is without value. It goes without saying that no case has been completely examined unless the mouth has been looked into, and yet in a great many cases nothing is gained by this examination. . . . The tongue is affected as the result of local and general conditions. . . . The changes that take place are in the direction of size, shape, color, coating or fur. The blood affects the color of the tongue, as a whole, more than any other

aaa, Filiform papillæ; b, mucous membrane; c, muscular tissue.

cause. The furring of the tongue is that portion of our subject which has been most studied. The fur upon the tongue is, when examined microscopically, seen to be made up of epithelial cells, molecular detritus, and organisms of various kinds, held together by mucus. The organisms are those usually found in the mouth; sometimes we find pathogenic organisms, most frequently the pneumococcus and pus producers. In long-continued fevers, in which the absence of moisture is the predominating cause, we have a peculiar condition of a dry white fur, quite thick and adherent. When there is not sufficient movement of the tongue there results a fur, because fewer of the old cells are removed than would be under normal circumstances. In paralytics we constantly see a furred tongue. The place of deposit of this fur depends very much upon the size and shape of the tongue; where the tongue does not come in contact with other parts of the mouth it will be thick, at the edge it will be rubbed off, leaving a red outline. The most ludicrous mistakes occur to those who overlook the fact that particles of food and medici-

* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

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nal agents give their color to the fur; rhubarb produces a beautiful liver tongue."

The concensus of opinion of the foregoing investigators seems to be that the coatings of the tongue are local and not indicative of any particular disease, and that the mass contains large quantities of bacteria. These coatings may be accounted for as follows:

The dorsum of the tongue, with its processes, glands, fissures and rough, horny surface is most favorably constructed for holding detritus from its own surface and from other parts of the mouth, also small particles of food and tartar; but the great factor of the formation and persistence of this coating is mucus. The coating forms at times into almost a membrane. This is due to the cementing qualities and the insolubility of the mucus discharged into the mouth.

The easily and quickly forming cakes of mucus in the nostrils is accounted for by the continuous passage of air over its surface, drying it rapidly, carrying dust and foreign matter into its substance which becomes imbedded, producing black, yellow, gray, or other color, dependent upon the character of foreign particles with which the air is freighted. The surface exposed to the air becomes hardest; that next to the membrane is softer. When the mucus finally dries and shrinks, it breaks into patches, curls and drops away, or is removed.

The mucus of the mouth, when separated from the more fluid portions of the saliva, is just as strong a cementing agent as that of the nostrils, and holds the particles of food, dead epithelial cells and tartar into a mass or layer, covering the rough surface of the tongue, also cementing the coating to the slanting, filiform processes, and to the uneven surface. Under this layer the mucus is continually secreted, and the desquamation of epithelium goes on; thus the layer is continuously added to from below as well as from above.

The upper surface of the layer being constantly wet has no opportunity to become dry and break up into patches as in the nose. In persistent mouth breathing it may occur, or portions of the coating may be removed mechanically, producing what is called "patchy tongue." Mouth breathing rapidly drives the water from the saliva, leaving the mucus and causing it to stick the closer and make the layer thicker and more persistent.

Such systemic disorders as tend to produce fever have their effect upon the mucous membrane, among the first of which is the "dry stage." In this stage the mucus is thicker, less abundant and dries quicker. This is as true of the dorsum of the tongue as of any other mucous membrane, hence the coating is usually pronounced and well formed by the time the physician is called to see the patient.

The color of the coating is largely effected by the incorporation of blood from different parts of the mouth, most frequently from bleeding gums, a condition found in a large percentage of people at all times, or it may be colored from many sources as cited, and not unfrequently from bacteria. Miller has cultivated a number of chromatic mouth-bacteria.

In addition to personal observation the foregoing would seem strong evidence to convince one that the coatings of the tongue are from local causes, but may be favored and increased by febrile conditions which precede or accompany almost every bodily ailment. Lack of cleanliness and mouth breathing are undoubted and prolific causes.

The danger from unclean tongues and mouths containing decayed teeth and diseased gums are graphically set forth by Miller. He says: "From a neglected mouth, such as repeatedly comes under the observation of dentists, enormous quantities of bacteria must reach the intestinal tract, in spite of the sterilization of food. In a very unclean mouth examined for this purpose I estimated by culture methods the number of cultivatable bacteria at 1,140,000,000; many of them were doubtless carried to the stomach during every meal, to be replaced by others developed between meals and over night."

Von Kaczorowiski proves clearly enough that the micro-organisms in an unclean mouth, quite independent of those introduced with the food and drink, suffice to produce intense fermentive processes, chronic dyspepsia, etc.

Even with decayed teeth and diseased gums to breed bacteria in great numbers, the dorsum of the tongue still presents the largest surface for their growth; and if it is not cleaned once or twice a day (which practically no one does) it is one of the greatest of all places in the mouth for breeding bacteria.

The mucus which cements the layer of sordes upon the tongue and lips is not soluble in water, ether, alcohol, chloroform, or dilute mineral acids, but is soluble in alkaline solutions, and since nearly all of our food is either acid or neutral, and not one in thousands thinks of scrubbing the tongue as a matter of cleanliness and protection, it certainly is a source of danger and infection, and an undoubted condition for perpetuating disease, especially with invalids.

In order to test the solubility of mucus in alkaline solutions, try scrubbing the tongue with a toothbrush filled with powdered biborate or bicarbonate of soda, and notice how the coat disappears. (Biborate is the least disagreeable.) Protrude the tongue and scrub it from back to front until the coating is removed. When the tongue is to be examined for diagnostic purposes this should be done so that the real color and condition of the tongue can be examined. Then the diagnostic features will be visible and of undoubted value. The use of the brush is much better than to scrape the tongue with a hard instrument. Ordinary tooth powders are not satisfactory because the finely pulverized chalk or other earthy matter remains on the tongue like food and dead epithelium, and the real condition and color of the surface is still unexposed for inspection. Coarse powdered borax or cornmeal, or the two mixed, form a coarse detergent powder very efficient for this purpose, as well as for cleaning the teeth and gums.

A clean mouth undoubtedly prevents much fermentive and putrefactive indigestion, not to mention its comfort and the prevention of tooth decay and diseased gums.

Animals keep deposits from the tongue by its use as a prehensile organ, and by licking their bodies and other substances. Then the saliva of animals in their native state is decidedly alkaline in reaction, and keeps the mucus dissolved much better than does the human saliva. The latter is either acid or very weak in alkaline reaction, a condition accompanying civilized life, and may be found in animals kept as pets or in confinement and fed upon prepared foods.

There is probably no way of estimating the great immunity brought about by keeping the mouth and all it contains perfectly clean. As a prophylactic measure no physician can afford to neglect it, either for himself or his patients.

DISCUSSION ON PAPER OF DR. FLETCHER.

DR. EUGENE S. TALBOT, Chicago—I differ with the essayist in regard to the cause of the coating of the tongue.

Dr. Kiernan, in his paper yesterday, alluded to the alimentary canal in the development of the child. He pointed out

that the alimentary canal and rectum were structures completed later in development; that is, that other structures of the body were perfectly developed before the alimentary canal and rectum. That is precisely the condition I have noticed in children. As shown the condition results from this abnormal state of the alimentary canal. This condition called indigestion is very common among neurotic and degenerate children. Neither neurologists or clinicians view it as a local condition. I believe that probably food is taken by the child which does not assimilate in the alimentary canal; hence, the small intestine does not perform its function and markedly furred tongue results. I have frequently seen this condition occur as often as four times yearly in a child. While food has a good deal to do with it, the assimilative and excretory organs do not harmonize in their action and constipation results. I do agree with Dr. Fletcher in regard to the treatment of these conditions. Local treatment will help greatly in clearing up the tongue, especially after the alimentary canal has been put in normal condition. Scraping the tongue may be done well, either with an instrument made for the purpose or with a stiff tooth-brush. Stimulation has most to do with the results. Frequent clearing up of the tongue results after brushing and stimulating it into a healthy condition.

DR. G. V. I. BROWN, Milwaukee, Wis.—It seems to me the essayist has given us a partial proof. What he says concerning the effects of mouth-breathing upon the mucous membrane of the tongue is true in a measure, but if it were entirely true I think we would notice greater changes in the structure of that membrane in patients who are chronic mouth-breathers. While there are quite small changes in the mucous membrane, particularly in the nasal passages, that of the mouth is not materially altered, so far as its permanent form is concerned. I think you all know that I am rather partial to the use of hydrogen dioxid to prepare the mucous membrane for the action of the antiseptic which you are going to use. You may not depend upon the dioxid as an antiseptic *per se*, but there can be no difference of opinion as to the value of preparing the mucous membrane by using that and then following with any germicide solution. In the treatment of patients with cleft palate and other operations of the mouth, the cleansing of the mouth every half-hour, in addition to repeated washing through the nose, perhaps once or twice a day, is a matter of vital importance, and is beneficial in two different ways: One is that the effect of the germicide used is constructive to the mucous membrane, and serves on the other hand to destroy the poisonous effects of the use of the germicide which is of a nature to be destructive upon living tissue of any kind, so I have come to use the dioxid, a 3 per cent. solution, and carbolic acid alternately, using one each half-hour, and getting good results in that way.

DR. A. E. BALDWIN, Chicago—I have little to say, only that I was glad to listen to the paper, and it shows a line of investigation that could be made productive of results. I have long thought that the mucous membrane of the mouth is perhaps more pathognomonic than we have given it credit for, but how far the investigation, as given in the paper, turns that way, I am not prepared to say. I have in a quiet way followed the investigation as carefully as possible in the mucous membrane of the mouths of my patients, observing them very carefully, but so far I have obtained no results that I feel would be proper to present before this Section.

Duration of Pregnancy.—According to the German laws the maximum duration of pregnancy is estimated at 302 days. Winckel has been reviewing the statistics of the Dresden and Munich maternities and finds that 1007 children are recorded among the 30,500 births during the last thirty years, who measured 48 to 52 cm. in length and weighed 4000 gm. Of this number 233 or .4 per cent. were born after the pregnancy had lasted from 303 to 336 days, showing that in case of unusually large children the duration of the pregnancy is longer than the laws admit. He mentions that none of the children ever weighed as much as 6 kg. at birth, and none at Dresden during the last eleven years weighed even 5 kg.—*Sammlung Klin. Vortraege, 292.*

A CONTRIBUTION TO THE SURGERY OF THE KIDNEY.

TWO CASES OF DISEASE OF THE KIDNEY SIMULATING GALL-STONES.*

BAYARD HOLMES, M.D.

Professor of Surgery in the University of Illinois; Surgeon to the Baptist Hospital.

CHICAGO.

The surgery of the kidney is much neglected in general practice on account of the difficulties of diagnosis which the surgical diseases of this organ present. The organ itself is hidden in the back. Its exploration through a mid-abdominal incision is unsatisfactory. The urine does not always present a suggestion of the condition of the kidney. The symptoms often lead the physician astray. Two such cases in my own practice seem to me worthy of record as a warning.

When we approach any diseased abdomen, our attention is fixed more or less intently on certain luminous spots, toward one or more of which the symptoms course or the findings almost inevitably point. The spots are the appendix, the gall-bladder, the pylorus, the kidneys and the appendages of the uterus. When we analyze the symptoms and findings of typical cases, there is little danger of error, but in atypical cases, such as the two which I have chosen to present, the diagnosis is very uncertain even after the closest observation. I hope that you will not be wearied by this simple method of presentation, for I have always found the recital of well-studied cases of the greatest practical value.

Mrs. C., 35 years old, was born in New England and educated in one of the colleges for women. She had no sickness of any account during her childhood, but as adolescence came on, she had painful menstruation and became rather nervous and hyperesthetic, but not to any serious extent. After graduation she went to the Sandwich Islands to teach. She married there and returned to the States, where a child was born in 1895. This confinement took place in Philadelphia under competent assistance, but there is evidence in the history there was some puerperal infection of a low grade, which persisted a rather long time. After the confinement, at intervals of two or three months and rarely at intervals of ten days or two weeks, the patient suffered attacks of abdominal pain accompanied by considerable rise of temperature and rarely by vomiting. These attacks lasted only a few hours each time. The pain began in the pyloric region and extended through the back and both shoulders. There was tenderness under McBurney's point during one of the attacks, and a diagnosis of appendicitis was made. In one of the attacks a tumor was felt in the same region, and this time a diagnosis of wandering kidney was made by another physician. After these attacks there was a gradually falling temperature and considerable prostration. The patient had been put on a restricted diet without effect. She had tried hydropathic treatment and a vegetarian diet without any modification in the frequency or the severity of the attacks.

In June, 1899, she left the Sandwich Islands and came to Chicago under my treatment. I found the patient a very intellectual woman of nervous, sanguine temperament and a New England conscience. She weighed 125 pounds. Her history was given clearly, explicitly and without bias. On examination, I found a perfectly developed chest and normal heart and lungs. The apex-

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beat, however, was three inches from the middle line, indicating a moderate enlargement. The blood showed a normal proportion of red and white corpuscles, but the hemoglobin was only 65 per cent. Malarial organisms were found in abundance. There were many floating black particles in the blood, of unknown significance. The urine was slightly diminished in quantity and in normal constituents—18 to 22 grams of urea a day—but although frequent examinations were made, there were never any abnormal constituents found. In examining the abdomen, both with and without chloroform anesthesia, no tumor nor abnormality was discovered.

The patient was put on antimalarial treatment, consisting of mild laxatives, a light diet, large doses of quinin, 20 grains six hours before the appearance of the slight rise of temperature, 99.5 F., followed by arsenic for two weeks. This rise was discovered by taking the temperature every half hour during waking hours. The organisms were gone by the end of a week. During the next few months the blood was repeatedly examined, but no malarial organisms again discovered. The hemoglobin rose gradually to 85 per cent.

There were no attacks of pain during the first few weeks she was under my care, but one morning at the end of two months she sent for me in great haste, and I found her suffering moderately from pain in the abdomen, back and shoulders. Her temperature was only 99 F., the pulse moderately accelerated. The patient was not anxious or fearful and willingly allowed protracted examination before morphin was given. Now for the first time a tumor in the region of the gall-bladder was easily outlined. It was not movable, but clung to the lower border of the liver and moved with each inspiration and expiration. It was moderately tender on pressure. No other signs or symptoms were elicited. A small hypodermic of morphin was given and the hot water-bag placed over the liver. In two hours the pain and tumor had both disappeared. The next attack came on only a few days later, after a hearty meal. It resembled the first attack in every particular, except that it began with vomiting. The tumor appeared again and disappeared with a liquid movement of the bowels. The third attack came on in October, and was more severe and long lasting than either of the others. This time I had Dr. George W. Webster in consultation. He saw the patient alone. The tumor in the region of the gall-bladder was present as before, but now for the first time there was distinct jaundice and the urine contained an unmistakable circle of bile. The case was thought from the first to be one of stone in the cystic duct, for the following reasons: 1, pain in the region of the back and shoulders; 2, tumor in the region of the gall-bladder; 3, absence of all evidence of renal disease; 4, clinical history of biliary calculus. With this history and the advice of Dr. Webster, I deemed it best to remove the stone.

After the usual preparations and under chloroform anesthesia, she was operated on November 30. Her temperature was normal and her pulse 88 before the operation. An incision three inches long was made along the right border of the rectus muscle and the abdomen explored. The gall-bladder was of normal appearance and thickness and contained no calculus. The right renal region was filled by a cyst-like mass somewhat larger than a kidney. The ureter was of normal size and feeling. The peritoneum was opened over the kidney and behind the colon and attached to the depressed peritoneal edges of the abdominal wound by continuous and by interrupted catgut sutures. The small amount of fat over the cyst was pushed away and the tumor pulled out through the abdominal wound and examined. It was found to be a cystic kidney, the outer surface of which looked like an ovarian cyst. The kidney substance was gone, except at a point near the lower pole, where a mass remained as big as the ball of the thumb. The wound was protected and the cyst opened. It was found to involve all the calices and the pelvis. The ureter opened out of it by a short turn. There appeared to me no way by which the small amount of kidney tissue could be saved and the ureter made effective. Therefore the artery and veins were separated from the ureter and ligated with strong, braided silk. The kidney was removed and the ureter pulled out of the wound as far as possible and cut off. The mucous membrane was turned in and the muscular and fibrous coats sewed tight together with fine silk. The stump was then dropped. On account of fear of infection from the interior of the cystic kidney which had been opened over the wound, I decided to pack the cavity with gauze containing a little iodoform. The ends of the abdominal wound were closed, leaving only a small opening for drainage. The operation lasted an hour and a half and was borne without event.

The temperature rose four hours after the operation to 99.6 F., and there was considerable pain and vomiting. During the following few days the urine was quite scanty, but it contained no abnormal constituents. The temperature never rose above 100 F. and the convalescence was perfectly normal. The packing was removed from the wound within a week, but the cavity became infected and did not close until six weeks later. Warning was given by a sharp chill and rise of temperature to 104 F., and the silk ligature on the renal artery was removed under cocain anesthesia. The urine had gradually and steadily increased in quantity until it reached 1000 c.c., and until the urea rose to 18 to 20 grams a day. During the convalescence there was a sharp attack of pain resembling the old paroxysms, but since that time, almost a year and a half, she has had no pain and no sickness. The urea has steadily increased and the patient has enjoyed almost perfect health. She has led an active student and literary life.

Mrs. M., 40 years old, of New England stock, was born and spent most of her early life in the tropics. She was always very active mentally and physically, but was never very strong. She weighed about 120 pounds. She was never ill except when her only child was born eight years ago. The labor was difficult.

In 1889 she had an attack of colic with fever and jaundice and was ill several days. Again, a few years later, while in Europe, she had a somewhat similar attack without jaundice. In 1898 she had several attacks of severe pain in the abdomen. During these attacks I attended her. The pain was severe paroxysmal, lasting fifteen to thirty seconds, with about an equal interval. She preferred a sitting position, bent over on her knees, with head and shoulders turned down. The greatest pain was in the back and shoulders, with none in the legs or vulva. The muscles on the right side of the abdomen were rigid and examination was difficult. A few drops of chloroform in olive-oil usually relieved the pain at once. On a number of occasions she had the sudden relief characteristic of displaced mechanical obstruction. The urine was frequently examined, but no abnormal constituents were found. There was no bile. A provisional diagnosis of gall-stones was made. The patient without any recommendation took the olive-oil

treatment. There was a long interval, several months, of apparent relief, but during this time she always remembered her side. About October, 1900, she was taken with a most severe attack and for the first time a distinct tumor was felt in the region of the gall-bladder. It was hard, round, immovable and painful. A few whiffs of chloroform were given to facilitate examination, and after waking up the pain was gone. The next day the tumor could not be felt. During the Christmas vacation a very protracted attack was suffered and this time there was no complete relief for a week. Severe sharp attacks followed in quick succession after her return to the city, and in two or three, the tumor in the region of the gall-bladder was unmistakably felt. In one attack, the pain disappeared during palpation of the abdomen. Her temperature during these paroxysms rose to 99 F., but once or twice a degree higher. The urine was uniformly acid, of rather large quantity and contained 2.5 to 3 per cent. of urea. There were never any abnormal constituents.

With the following indications and diagnosis, which I copy *verbatim* from the notes of her history sheet made before operation, she entered the Baptist Hospital for operation Jan. 14, 1901.

INDICATIONS AND SYMPTOMS.

1. History of abdominal pain, region of gall-bladder, radiating into back (and shoulders), certainly not into labia or legs. Duration six or eight years.

2. These pains severe, often light or simply threatening; when severe, terminating suddenly with complete relief.

3. Rigidity of muscles over right side of abdomen continuing even after the paroxysms of pain have subsided.

4. Tumor felt on at least three separate occasions in region of gall-bladder. Unfortunately no history or record of recognition of kidney at same time and separate from it.

5. No tumor or tenderness over appendix or over course of ureter, or in pelvis.

6. No tumor or tenderness over pancreas.

7. No tympanites. Rumbling of gas in bowels during and after attack, with no appreciable relief from pain or difference in character after paroxysm.

8. No fluid in peritoneal cavity.

9. No abnormal constituents in urine; acid.

10. No dilatation or hypertrophy of heart as in stone in kidney.

11. No evidence of tuberculosis in examination or history.

12. Low temperature, 99 to 100; with subnormal temperature of 97.5.

13. No vomiting, and only once or twice "sick headache."

14. No disorders of bowels, movements a little tardy, no diarrhea after paroxysm.

15. No jaundice (except in 1889).

DIAGNOSIS.

The diagnosis lies between 1, gall-bladder disease; 2, appendicitis; 3, mechanical obstruction of kidney; 4, tubercular peritonitis; 5, obstruction at hepatic flexion of colon; 6, tumor in this region; and lastly, gatralgia or hysteria.

The disease or condition is of long duration, 2 to 8 years; no suppuration, temperature 99 to 100; probably mechanical, stopping the discharge of some viscus and the peristaltic action of some set of muscles.

The usual preparations were made and with chloroform anesthesia the abdomen was opened on the right border of the rectus muscle. The gall-bladder was found empty of stone and normal in appearance. The right kidney was movable and directly under the gall-bladder, but easily brought into the middle-line under the umbilicus. After thorough examination of the pylorus, the appendix and the right ovary, the floating kidney was considered the only adequate cause of pain; it was fastened back in its place in the usual manner. The location was approached by a long, curved incision, the kidney denuded of fat and pushed back so as to button through the inner fascia of the quadratus. It was fastened to the fascia by a double row of interrupted long-lasting catgut stitches. Both wounds were then closed in layers.

The patient made a perfect recovery except for one alarming complication. During the four weeks she was in the hospital, she had three attacks of pain similar to the pain she formerly suffered. Since that time she has been entirely free from pain. The kidney remains in place and she has resumed her very active life.

THE GYNECOLOGICAL AND OBSTETRICAL SIGNIFICANCE OF GIRLHOOD.

HENRY P. NEWMAN, A.M., M.D.,
CHICAGO.

I have recently received a letter from Dr. George Engelmann, of Boston, announcing his intention of reading a paper before the Gynecological and Obstetrical Section at the June meeting of the Americal Medical Association, on "The Causes of the Increasing Sterility of American Women," and stating his conviction that the subject is of vital importance and needs investigating. The same authority, as President of the American Gynecological Society, made an elaborate address last year upon a very nearly related topic: "The American Girl of To-day," and aroused much interest in his carefully prepared and somewhat startling statistics. It would appear from his researches, and in these he was assisted by prominent educators, teachers in young women's colleges and normal schools and by the heads of mercantile houses where women are employed, that the absolutely normal, healthy girl is exceedingly rare. It is evident that for her own sake as a future mother and for the sake of the race which is to come of her that we should do something to better the conditions which threaten her maternal functions.

The lack of fertility is not the only evil. The need is not so much for larger as for better families. The higher you go in the scale of animal value and intelligence the scarcer become the progeny. We want a better physical heritage for the few. It is the right of each individual to be perfectly born and generously nourished at a healthy mother's breast. A perfectly just and apparently simple proposition, but one requiring the united effort of our entire domestic, social and scientific systems. It has been proposed that the obstetrician be given charge of the whole period of gestation. But this is not enough. Too often he will find threatening lesions, infections, inflammations, malformations and malpositions already existing and will feel that to be successful with his case he should have had an oversight over the years of girlhood in which so much mischief was done.

The case-books of our specialists in gynecology and obstetrics and the records of teachers and employers of young girls go to show that the period between childhood and womanhood is not all what it should be. This period in which nature is concentrating all her energies upon the development of the generative organs and the establishment of their physiological functions is ordinarily that in which greatest demand is made upon the vital forces of the girl by the exigencies of our modern social and educational systems.

Her mental and nervous forces are taxed to the utmost by the ambitions of the study room, and the transitions from grammar to high and normal schools; she is over-

worked by the addition of music and one or two languages to the already full curriculum of the class; her digestion is impaired by that wretched institution the school "lunch," and other abuses; her muscular activities are curtailed by the adoption of the corset and a more mature and burdensome form of dress; her social instincts are roused by too early participation in exciting amusements, and with it all she begins to experience the nerve-trying influence of the menstrual epoch. If employed as a wage-earner the conditions of her occupation are even less favorable in the majority of cases. Under these complex and unhealthy stimuli the average young woman may present a bright and vivacious appearance but is wanting in endurance, nerve-force and general physical tone. In a very large percentage of American girls there is greater or less impairment of the menstrual function. Engelmann's statistics, covering all degrees of pain, give as high as 73 per cent. of suffering at the monthly period, and 50 per cent. of irregularities of all kinds. Not all of these young girls consider themselves, or are to be classed, as invalid, but it may certainly be affirmed that all deviation from the physiologic in the performance of the menstrual function is a detriment to the function of maternity in the same degree as the woman has departed from normal standards. As I have observed in numbers of cases the sequence is this: irregular menstruation, seldom profuse or prolonged but usually accompanied by pain at the beginning and during the progress of the flow. After a varying lapse of time, this characteristic menstrual pain is preceded by a prodromal stage of nervous exacerbation in anticipation of the flow and due to the gradual development of congestive or structural disease of the ovaries. Sometimes this goes on to a condition of pronounced or partial invalidism; sometimes the patient, and I use the term advisedly, for about this time the unfortunate pathology is brought to the attention of the physician, sometimes the patient marries. If married, such a woman may expect either total sterility or the birth under most unfavorable circumstances of one or two children. Sometimes she loses, her life; often through unavoidable obstetrical accident, her little remaining health; sometimes her child is sacrificed, and all to the Moloch of our bad social and educational methods. To quote Engelmann's words: "The girl pays the penalty and the community suffers." To return to the etiology and pathology: the disturbance of the process of development of the generative organs, which is the chief concern of Nature in the pubertal period, the forced activity of other organs through misdirected or ill-timed educational methods results in a thwarting of the growth in the pelvic regions and a condition there which is pathognomonic. In gynecologic parlance we speak of it as infantile uterus, or the puerile or juvenile cervix according to the degree of arrest of development. In the first the process of development has been nipped quite in the bud, while in the latter and commoner form Nature's efforts have been fairly successful as to the corpus uteri while the cervix remains long, conical and deficient in lumen.

This typical maldevelopment of the cervix plays a disastrous role in the future history of the woman. Pain itself, not always pronounced in the beginning, gradually becomes a feature of the moment. Recurring monthly this influence is baneful and like all chronic suffering, exhausting and devitalizing. The congestion incident to this state of things becomes more persistent as time goes on until a passive congested state is continuous throughout the intermenstrual period. There is general lowered vitality and less resisting power, so that even should pronounced infection with inflammatory exudates be wanting, a low form of white-cell proliferation occurs and the newly-formed connective tissue hardens, contracts and, by constricting the lumen of the cervical canal, renders this important organ unfit to perform its functions, softening and dilating in menstruation, copulation, and childbirth, drainage of the uterine cavity, etc. The ideal handling of these cases is prophylactic, such as is embodied in that trite advice that we begin with the girl's grandmother. Being forced to make our beginnings with this generation we must do the best we can for it. Much can be done by instructing mothers in the management of the maturing child. Perfect confidence between mother and daughter will insure hearty co-operation on the part of the latter in all efforts for her developing health and strength. Out-door life should be rigidly insisted on for the girl as for the boy. The dress should be as free and unconfined as his. Forced mental development at the expense of the physical should be discouraged. In fact, due observance should be given to the hygiene and sleep, diet, dress and exercise. Pain should be relieved, not necessarily by drugs, but by sitz-baths, topical applications, heat, etc., or, if due to mechanical causes in the organs themselves, recourse should be had promptly to surgical intervention.

The conical cervix already described is so frequent a cause of dysmenorrhea that it should invariably be corrected when the attention of the physician is called to the characteristic symptoms.

It is better practice to do a full dilation, under anesthesia, supplemented with plastic work for the purpose of restoring the contour of the cervix and maintaining a proper lumen, than to subject the patient to a course of local treatments in the gynecologic chair. I believe, in fact, that the doubtful local benefit to be derived from such treatment is more than counterbalanced by the mischief of the procedure in fixing the girl's attention upon her pelvic organs and clouding her young horizon with the shadow of chronic difficulties.

With this in view I have been in the habit of subjecting my patient to but one seance, in which I aim to accomplish so much that she does not have to return for further local treatment. She is told that her difficulties have been corrected and is encouraged to believe that she is now cured and must in future keep herself well.

The operative work I speak of, "tracheloplasty," is applicable to all cervical deviations, deformities and displacements, and is undertaken to restore the anatomical relations of the organs and to re-establish normal function.

While conception and full-term pregnancy are theoretically to be desired in these cases, both as a means of developing the generative tract and remedying some of the imperfect conditions present, it is not always happy in its results. If the case goes on to full term, labor is apt to be arduous from lack of functional power in the organ, anatomical conditions, etc., and tears or trauma are exceedingly apt to occur with all the dangerous consequences. At best such a woman is sadly handicapped and, for her, wifehood and motherhood are hazardous experiments. If mothers and educators could be made to realize how preventable are most of the diseases from which the rising generation of women is doomed to suffer; if, for instance, they would reflect upon the fact that among the most prolific causes of gynecic disease are maldevelopment from improper hy-

giene at puberty, taking cold at the menstrual period, and constipation, the season of girlhood would henceforth be brought much nearer Nature's wise intention and would to a great extent cease to have its present significance to medical science.

The girl as the product of modern civilization is, in everything but bodily vigor, removed by all that is desirable from her aboriginal mother.

It is the just aim of our educational system to develop still further her intellectual qualities. It is therefore due to her and to the vital interests she represents that we endeavor to restore as far as is compatible with our artificial standards, the natural privileges of which she has been deprived, and contend with coming generations for better things.

103 State Street.

ADENOMA SEBACEUM OF THE NON-SYMMETRICAL TYPE.

WILLIAM S. GOTTHEIL, M.D.
NEW YORK CITY.

The pathologico-anatomical term adenoma still lacks both definiteness and circumscription. Some authorities extend it to include all increase of glandular epithelium, even when form and function are well preserved. Others limit the designation to an atypical increase with loss of function. It is not surprising, therefore, that the same confusion should exist with regard to the sebaceous adenomata of the skin. The affection is a rare one, and the opportunities for histological examination have not been numerous. A study of the literature, however, shows very plainly that two main pathological types may be distinguished. The first accords with Unna's definition: Benign, irregular, tumorous outgrowths of the sebaceous epithelium, going on to fatty, but not to corneous or colloid metamorphosis. The second is a simple hypertrophy of apparently normal sebaceous gland tissue.

Clinically, also, at least two types of sebaceous adenomata are to be recognized; they do not, however, correspond to the pathological types, cases of both occurring in either of them. Most of the recorded cases have occurred as multiple, yellowish or yellowish-red, firm pin-head to lentil sized nodules, without any central depression, and situated on the central portions of the face, more especially upon the nose, naso-labial folds, etc. A certain proportion of cases are congenital, and are therefore ranged by Besnier, Hallopeau, and Jadassohn among the nevi. Mental sluggishness or distinct deficiency has been noted in a number of cases.

In a few cases, however, sebaceous adenoma occurs as one or more larger tumors seated upon the scalp, or more rarely upon the back or other parts of the body. Barlow has found 50, and Poncet as many as 60, in one case; but usually they are single or few in number. They form lentil to nut sized or larger tumors of a pale yellowish color, and absolutely indolent. Microscopically they are composed, as a rule, of hypertrophied sebaceous epithelium enclosed in a distinct fibrous stroma. Hyaline and calcareous degeneration has been noted and even transformation into typical epitheliomata. It is a case of this kind that I desire to record.

The patient was a girl of 19, born in Germany. She was distinctly backward in physical development, looking like a girl of 14 or 15, but was mentally bright. She began to menstruate at 16, suffered from chlorosis three years ago, and had had leucorrhea for the past six months. The lesion on the scalp was first noticed when she was one year old; it was very small at first, and has gradually grown to its present size. There had been no subjective symptoms from the growth, and the patient simply desired to be relieved of the deformity.

The growth is not very well shown in the accompanying illustration, on account of its comparatively slight elevation above and color differentiation from the surrounding skin and blond hair. It was situated upon the right parietal region of the scalp, near the fronto-parietal margin and about half an inch behind the anterior margin of the scalp. It formed a curved, elongated patch two and a half inches long by three-quarters of an inch in its widest part. The surface was slightly elevated, a little rugose, and marked with a few lanugo hairs; normal scalp hair was entirely absent

Figure 1.

over it. Its color was a pinkish-yellow, quite distinct to the eyesight from the normal scalp. The entire mass formed an absolutely sharply circumscribed tumor in the skin.

The diagnosis was not made from the appearance of the growth; in fact Darier admits that it can not be made in the non-symmetrical form of the disease until the microscopic examination has been made. Before this was done I demonstrated the case as a probable xanthoma at the Manhattan Dermatological Society. After excision portions of the tumor were hardened and stained in various ways. I may note that the "Kernschwartz" gave me the best results for photomicrographic reproduction, giving all the gradations from light gray to black in a way eminently suited for the purpose.

The microscopic picture is shown in Figure 2. Its most marked feature is the enormous hypertrophy of

the sebaceous glands, which are, however, normal in shape and have normal excretory ducts. Each gland is inclosed in a thin capsule of fibrous tissue. The epithelial layer is increased and the papillæ of the corium are hypertrophied; and here the growth resembles the benign forms of epithelioma to a certain extent. The isolated hair papillæ found in a few of the sections are very small and atrophic. The sweat glands and the subcutaneous connective tissue and fat are apparently unchanged, save for the compression exercised by the hypertrophied sebaceous glands.

Figure 2.

The resemblance to rhinophyma is marked, but there is absence of any hypertrophy of the connective tissue of the cutis, and the increase of the epithelial layer is distinguishing. Benign epithelioma of the adeno-cystic type might be thought of but for the absence of epithelial prolongations and degenerated cell-nests.

THE TREATMENT OF LARYNGITIS.*

OTTO T. FREER, M. D.

Instructor in Diseases of the Chest, Throat and Nose, Rush Medical College; Professor of Laryngology and Rhinology, Chicago Policlinic.

CHICAGO.

It is the intention of this article to describe chiefly the local treatment of acute and chronic laryngitis, and to mention general measures only where they are necessary aids. The first form of acute laryngitis to be considered is the simple catarrhal type of moderate degree. This variety occurs chiefly in adults and, of all forms of laryngitis, is seen oftenest. It does not confine the patients to the house so that most of them are seen in the office or at clinics.

The chief symptoms are cough, at times incessant and distressing and varying degrees of hoarseness. The laryngoscopic appearance are the well-known ones of diffuse or localized congestion, especially of the cords, while secretion may be absent, or raised in the form of mucus or muco-pus. Most of these cases run but a short course and recover spontaneously, though the patient may continue to use and even abuse his voice. Where cough is a prominent feature it mechanically injuries the larynx and should be controlled by codein or other usual remedy. The influence of the inhalation of hot steam on the course of the disease has, in my hands, been so decided that I have come to rely on its beneficial influence. Voice rest is to be enjoined, but it is hard to enforce obedience. Of internal remedies, salicylate of sodium seems to have an abortive influence in some cases. With diaphoretics I have accomplished nothing, neither has menthol volatilized or sprayed in oily solution influenced the course of the affection as far as I could see. Seth Bishop praises menthol as an antiseptic anodyne. The anodyne effect is so feeble, in my experience, that it will not even suppress cough. The cooling sensation caused by the drug is deceptive. Menthol is, as Ingals says, chiefly an irritant stimulant and hence out of place in early acute laryngitis. As to its antiseptic influence it is doubtful whether the minute amount of this rather feeble antiseptic entering the larynx in volatilized form will influence the growth of microbes encased in protecting mucus. The oily menstruum of the spray will prevent efficient action of the antiseptic qualities of the remedy. This effect of oily solution on antiseptics is emphasized by John E. Weeks in his article on the relative germicidal value of the antiseptics. He thinks that the oily solvent prevents contact of the chemicals used, with the tissues.

Though most cases of the variety of laryngitis under consideration recover speedily, quite a number show little tendency to get well and pass into a tedious subacute stage with slow recovery or become chronic. Persistence in singing or speaking contrary to orders is one of the chief causes for this. In fact, it seems almost impossible to induce patients with acute laryngitis to rest the voice. Where the acute laryngitis assumes this protracted form local treatment is needed. Most cases will recover promptly under its influence, but some will prove refractory, especially where the general health is bad, as in the pretuberculous state or when lactation reduces nutrition.

The clinical picture and histologic appearances of acute laryngitis are those presented by an infected mucous membrane, whatever theories may be held in regard to the etiologic importance of exposure to cold, which probably acts merely as a predisposing cause. If we find the histologic changes of acute laryngitis, the epithelial and subepithelial round-celled infiltration, the desquamation of devitalized epithelium, the wandering masses of leucocytes to the surface in any mucosa other than that of the respiratory tract, as that of the urethra or conjunctiva for example, we are not in doubt in the least that we have to do with a mucous surface inflamed by bacterial invasion. Why should exposure to cold, without other agent, be supposed to be able to produce changes in the mucous membrane of the larynx that elsewhere in the body we regard as typical of an infected mucous surface? The beneficial action of the usual remedies also impresses one with the infectious character of acute catarrhal laryngitis. These remedies are the so-called astringents, all of which are bactericides, and it has been my experience that the most bactericidal of all, nitrate of silver, is the most effective, and that the least in value are two but feebly antiseptic, tannic acid and alum. The most effective astringents are metallic antiseptics, and differ from organic antiseptics in their power of combining with the surface of the living tissues and imposing a barrier of metal-laden protoplasm to bacterial invasion. They therefore do not merely lie on the epithelium, but enter into it so that

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prolonged contact is insured. If used in too great strength they will devitalize the surface, that is cauterize it, a result irritating and undesirable in acute inflammations.

This clinging power of the metallic salts to the tissues undoubtedly explains the permanence of their beneficial and also undesirable effects, such as lead poisoning and argyria. One of the unpleasant features of the silver salts is this latter quality, and Moritz Schmidt tells of three cases of argyria due to persistent swabbing of the throat for months with silver nitrate. As to the so-called astringent effect of the astringents, as Harnack says, it does not exist. They do not cause a mysterious contraction of the tissue elements or their vessels; they merely form a protecting coat which hinders the egress of secretion—hence the drying effect of astringents.

At present silver nitrate is largely being displaced by protargol and similar modern compounds of silver, which are undoubtedly superior to the nitrate. Protargol is antiseptic, does not cauterize and penetrates the tissues deeply. A good strength of solution for use in acute laryngitis is from 20 to 50 grains to the ounce. Protargol and the astringents seem to me most effective where there is a decided amount of purulent secretion, while in the cases where hyperemia predominates the result is much less marked. Some of these latter cases are, in fact, in some instances not so much laryngitis as congestion due to voice abuse, especially in singers. This has been well emphasized by Holbrook Curtis of New York. Results are best obtained here by voice rest and proper methods of singing.

I have not found that the remedies of the eucalyptol, thymol, menthol and terbene group compare in efficiency with the metallic astringents. They are often used in oily solution and, as mentioned, oily menstrua inhibit the action of antiseptics. In addition oils do not form intimate contact with the moist tissues treated, but spread and float away as they would on water. The conditions are different on the skin, designed naturally for oily media, and where prolonged contact is assured. The above-mentioned drugs belong to the class of feebler antiseptics and therefore require prolonged contact in decided strength to be effective.

The mode of application of remedies is not a matter of indifference. The spray seems to me the best. Powders are removed by coughing and scraping before the active drug they contain has time to dissolve and penetrate the layer of mucus that protects the epithelium. Swabs mechanically injure the tissue by causing violent spasm of the laryngeal muscles and scraping off the epithelium, leaving raw surfaces. The laryngeal syringe, to reach all parts, must inject a large amount of fluid which can therefore not be used in proper strength to be effective without causing the patient great discomfort. With the spray a single drop can be made to evenly cover a large surface. The spray should of course always be introduced under the guidance of the laryngeal mirror, but even then its fault is that enough does not get into the narrow space found in many patients between the epiglottis and posterior pharyngeal wall, in sufficient amount to be effective. To open the upper larynx widely for the spray in these cases it is a good practice to hook the epiglottis forward with the tip of the atomizer. In many cases this is not possible, however, with the ordinary laryngeal tip, so that I use one of my deep tracheal spray tubes, recently described in THE JOURNAL, for this purpose. The long tube readily hooks up the epiglottis. Another advantage of the instrument is the fact that it is possible with it to spray directly against the interior of the larynx and so blow away mucus from the surface while driving the remedy against the tissues at short range. The perspective does not permit us to appreciate how very far down in the neck the larynx is often situated, and a spray coming from high above it in the ordinary way spreads like a fan, so that but a portion of the medicament enters the larynx, and the rest is lost on the pharyngeal wall and in the fossa pyriformis.

From the milder type of laryngitis mentioned we advance through grades of increasing severity until we reach an extreme type of acute laryngitis, acute submucous laryngitis. In this form the infectious agents pass beyond the mucous membrane into the lymph spaces and channels of the submucous connective tissue, which becomes swollen and hyperemic, while at times enlarged cervical lymphatic glands can be felt. In the upper larynx the swelling may be so great as to cause serious dyspneas due to enlargement of the epiglottic and aryepiglottic folds. In this type of laryngitis it is obvious that the affection has penetrated too deeply to be influenced by applications to the laryngeal mucosa, as the disease is more in the lymphatic channels than on the surface; in fact the irritant effect of astringents may add to the swelling in a dangerous degree. In these cases the external application of cold to the neck is efficacious. As Schech states, cold limits the blood supply to the larynx by constricting both the great and small arteries of the neck, as proven by Winternitz. This diminishes the vascular swelling of the mucous membrane. In the case of a patient shown at the clinic for chest, throat and nose diseases, at Rush Medical College, the dyspnea was so great that tracheotomy was considered. The patient was admitted to the Presbyterian Hospital and treated with a spray of adrenalin chlorid applied systematically, together with repeated hypodermic doses of pilocarpin, ¼ grain each, to keep up a profuse sweat. These means seemed to keep the swelling in check, so that operation was avoided.

The hypodermic use of pilocarpin for edematous conditions of the larynx has been advocated by Suarez de Mendoza, and he thought that it avoided tracheotomy in threatening cases. Felix Semon obtained good results from scarification of the swollen mucosa in these severe examples of submucous laryngitis. Intubation proved ineffective in a case of my own, as the edematous aryepiglottic folds closed over the top of the tube; scarification also proved unavailing so that tracheotomy had to be performed. When the epiglottis is much swollen it is apt to be immovable, so that fluids enter the trachea. In this state it is advisable to feed with the esophageal tube. In some instances submucous laryngitis is confined to the hypoglottic region, the loose areolar tissue underneath the cords swelling and dangerously obstructing respiration, the so-called laryngitis hypoglottica acuta gravis of Naether, or chorditis vocalis acuta inferior as it is also called. This grave form occurs chiefly in adults, while a less serious variety is found in children, causing the condition called pseudocroup, laryngismus stridulus, or spasmodic croup. Though often this affection is caused by spasm of the glottis merely, the opinion of to-day seems to be that at least most of the cases are due to temporary hypoglottic swellings that increase during the venous congestion due to sleep, and subside as soon as the waking child takes deep inspirations. The swelling has been seen by a number of observers. In some cases intubation is needed, but as

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a rule cold applications to the neck, keeping the air moist with steam and the use of narcotics to avoid any complicating spasm of the glottis will avert this. Local applications to the hypoglottic region in children are impossible.

The acute hypoglottic laryngitis of adults is apt to require tracheotomy or intubation, and neither of these operations should be put off if dyspnea is at all marked, as the hypoglottic swellings are apt to suddenly increase enough to suffocate the patient. Cold applications to the neck will prove useful. Hajek warns against the use of potassium iodid in this affection, as it may make immediate tracheotomy needed by adding to the swelling. Laryngitis with scabbing and crusting in the larynx, the so-called laryngitis sicca, exists not merely in a chronic but also in an acute and subacute form. It is hard to explain this tendency of the secretions to dry in the larynx. The crusts may become massive enough to cause serious dyspnea, but usually are merely sufficient to create cough and hoarseness and at times bleeding.

Cases of this kind are not excessively rare, and usually the crusts can be seen to extend down into the trachea. As a rule the scabs rest on the cords and inter-arytenoid region, where there is pavement epithelium. These cases are generally tedious without treatment both to the larynx and trachea. As long as the latter is lined with crusts treatment confined to the larynx is ineffective. Inhalation of normal salt solution from a steam atomizer is an excellent palliative, but will have little effect on the tracheal scabs. Nitrate of silver or protargol sprays, as soon as the disease has passed its acutest stage, are very effective if they can be made to reach all of the diseased mucosa. The ordinary laryngeal tip will answer well enough for most cases confined to the larynx, but for the tracheal scabbing I have found it necessary to use the long tracheal spray tube devised by me. The tip of this must be either held within the opening between the cords or passed through them into the trachea after cocainization. The ordinary spray tip has to be placed so far above the chink of the glottis that most of the jet is lost in the larynx and but little passes into the trachea, especially as the cords are held spasmodically in a position of partial adduction by most patients. Until I used this method I found laryngotracheitis sicca a discouraging disease to treat. The tracheal syringe is far more unpleasant for the patient than the spray, and as it necessitates larger amounts of fluid the concentration of the chemical in solution must be weaker unless we wish to run the risk of causing excessive irritation. The spray also applies itself more evenly to the tracheal walls. Oily substances can be sprayed into the trachea with the view of dissolving the crusts, and the patient should be kept in a room with a steamy atmosphere.

Laryngitis characterized by hemorrhage from the mucous surface without ulceration or wound, and at times by submucous hematomata, is called laryngitis hemorrhagica. It is very rare and in some cases has proved dangerous on account of large tough clots forming in the trachea and larynx. In a large proportion of cases it accompanies laryngitis sicca. The bleeding may be profuse. In laryngitis sicca the recurrence of the bleeding can be avoided by moist inhalations to prevent the formation of crusts. Astringent applications in laryngitis hemorrhagica should not be irritating, and the best of these for mild hemostatic effect is probably tannic acid. The iron salts will certainly create much reaction and form tough leathery clots hard to remove by coughing. When the larynx is full of clots and blood it is doubtful whether any local applications will reach the bleeding surface, so that cold to the neck, rest and narcotics are probably the best remedies under these conditions. Adrenalin would have a good but temporary effect when it can be applied.

Uchermann has recently described a form of laryngitis which he calls laryngitis acuta circumscripta nodosa rheumatica. It occurs in the form of sensitive, rather firm, blue-red infiltrations analogous to those of the cutaneous erythema nodosum. When seated over the crico-arytenoid articulation the nodes cause pseudoankylosis with immobility of the cord. The therapy is salicylate of sodium.

In chronic laryngitis we have to deal with lasting changes which have gradually more or less profoundly altered the epithelium, the submucous connective tissue and the blood-vessels of the larynx. These elements will be effected in varying proportion. The epithelial changes are usually in the direction of the creation of a dermoid condition of the laryngeal mucosa. In extreme cases the whole laryngeal interior becomes thus lined with pavement epithelium, but usually there is thickening merely of the inter-arytenoid epithelium and of that on the cords. At times the change is confined to the region of the processus vocales, causing two epithelial protuberances, the typical pachydermia laryngis of Virchow. When occurring in the inter-arytenoid region the epithelical thickening causes stiff folds or a general warty prominence of this locality. The connective tissue hyperplasia may cause smooth or nodular hypertrophy of the cords, greatly increase the size of the ventricular bands, which then cover the cords, create hypoglottic swellings that at times dangerously interfere with breathing, fill the inter-arytenoid space with clumsy folds and nodosities of thick mucosa. Hyperplastic mucous membrane protruding from the ventricle of Morgagni has given rise to the term "eversion of the ventricle," a false conception of the condition. The vascular changes are in the direction of venous dilatations which form, at times, varices on the cords. There may be venous congestion of the entire laryngeal membrane.

In other cases of chronic laryngitis there is atrophy instead of hypertrophy. In my experience a not very rare condition is absorption of the tendon-like connective tissue of the cords, leaving in their place mere folds of flabby mucous membrane, an incurable state well described by Störk. In some rare cases erosions on the cords and fissures of the interarytenoid region are found. They are always suspicious of tuberculosis. In some old cases of laryngitis atrophy of the muscles occurs simulating paresis.

Most cases of chornic laryngitis do not show these profound alterations. In many cases the condition is slight and localized, especially in the chronic laryngitis of singers.

In another type of cases the most prominent changes are found in the mucous glands, with chronic alteration of secretion, in mild examples limited to scraping up of small amounts of muco-pus. In the severer grades the whole larynx and trachea may be lined with pasty pus or thick crusts, at times fetid, the so-called ozena laryngis, usually but not always associated with the same state in the nose and nasopharynx. When the secretions are removed the shape of the laryngeal interior may be found but little altered. In some extreme cases the vocal cords will be found distorted and

joined to each other by cicatrices, leaving but small room for breathing, as described by Freudenthal.

This brief sketch of the pathologic conditions of chronic laryngitis shows their enormous diversity and the great variety of means needed to combat them, ranging from a mild astringent to a surgical operation, and that one must be able to recognize states in which irremediable changes make all treatment useless. The need of treating simultaneously nasal and pharyngeal pathologic conditions is too well known to need more than mention here. The great and inveterate effects of chronic laryngitis can not be conquered by a few spray formulæ, as the favorite presciption corner of some medical journals would lead one to think. Great patience is needed by the patient and physician and we can not promise too surely a recovery. Often we will get only moderate or no improvement.

The first thing needed in the treatment of chronic laryngitis is to remove the source of chronic laryngeal irritation if there is one, whether it be mouth-breathing, nasopharyngeal catarrh, alcoholism, voice-abuse, or other cause. It is very important to bring the body weight and nutrition up to the normal standard for the individual. This is unfortunately not alway possible when we consider how often chronic nontubercular laryngitis depends on pulmonary tuberculosis.

In the milder cases of chronic laryngitis, where the changes are confined to slight epithelial thickening and hypersecretion with moderate congestion, we can sometimes effect rapid improvement by the stimulus of mild astringent applications, such as silver nitrate, 10 grains to the ounce, or copper sulphate, 20 grains to the ounce. From the much praised alumnol I have had only disappointment, but zinc sozo-jodole, recommended by Moritz Schmidt, is mild in action and gives positive results. I use it in 5 per cent solution. This treatment is gratifying in the slight chronic catarrhal irritations of singers. Singers are subject to these even when they use their voices properly, and seem to have a special tendency to laryngitis.

In instances where the epithelial thickening and connective tissue hyperplasia is pronounced we need more powerful chemical agents to accomplish our ends. Those authors who have had the widest experience and have acquired an unusual degree of intralaryngeal skill in consequence advise here the application of mildly caustic solutions applied accurately to the parts showing pathologic changes, as for instance thickened hyperplastic vocal cords or the pachydermatous folds in the interarytenoid region. Solutions of silver nitrate in the strength of 25 to even 240 grains to the ounce of water are advised by Störk, Krieg, Schroetter, Semon. Tincture of iodin—pure—and chlorid of zinc in 3 to 5 per cent. solution are examples. Sajous even employs fused chromic acid to destroy completely the thickened epithelium and ectatic veins on the vocal cords, with good results. Störk says that silver nitrate should be used in strength sufficient to whiten the surface treated. Where the pathologic changes are marked and where we must cause destruction of epithelium which is unnatural to its location such severe means are needed and will be better borne than by the healthy larynx, but it is well to follow Semon's advice and begin with the milder solution, and only if nothing is being accomplished to work up to the stronger ones. It is better not to cover too much ground at one sitting, as severe reactions are to be expected; in fact, Störk says that the patient will be voiceless for a few days, and suggests that this enforced silence will be beneficial. He and others advise a sojourn in a resort, for some cases, simply because the patient will not have the usual opportunities for conversation. For these strong applications local anesthesia are needed as a preliminary, and the application of the astringent must be made with a small swab under the guidance of the mirror, with perfect accuracy. As Ingals says, the strong solutions are in most cases objectionable, because of the spasm of the larynx and the great discomfort they cause the patient. In some cases of marked chronic laryngitis, however, we can not avoid their use if we wish to accomplish anything.

Where hyperplastic muscosa protrudes from the ventricle it must be cut away. The best instrument for this purpose is the double curette of Landgraf and H. Krause, which cuts vertically. Tuberous masses in the inter-arytenoid region, elephantiastic ventricular bands can also be removed by some one of the double curettes, or can be reduced by electrolysis or the galvanocautery. The cutting operations are to be preferred, however. In some cases the snare can be used.

The treatment of the typical pachydermia laryngis of Virchow, the cushion-like epithelial masses growing from the processus vocales, likened properly to corns in the larynx, is regarded as very unsatisfactory. The accompanying chronic laryngeal catarrh may yield to remedies, but the pachydermatous outgrowth will remain. Some advise against interference with these growths where they do not injure the voice perceptibly. Chiari thinks they should be removed as they are occasional sources of perichondritis. If partly cut off with the double curette they will return; if deeply removed we may do injury to the processus vocalis. The cautery, electrolysis, tincture of iodin, chromic acid, have all been used with poor success. Scheinmann employs a spray of 2 to 3 per cent. acetic acid inhaled from a steam-atomizer for ten minutes three times a day. He also injected the same solution from a laryngeal syringe. The proceeding does not seem very logical, and his claims that the pachydermatous nodes softened and grew smaller were not confirmed by Ilberg, who also had no success with applications of 0.5 to 5 per cent. solutions of caustic potash.

Fein's method is the most promising. He caused disappearance of the pachydermia by using a solution of salicylic acid, 15 grains, water and alcohol each 75 minims, applied with a swab. There was no reaction. The remedy was used every other day for three months. For the treatment of chronically swollen vocal cords softened by venous dilatations Krause's incisions or scarifications offer a decided advance over previous methods. Krause uses a lance-shaped knife and makes small incisions 3 to 4 millimeters apart, longitudinally, along the cords from the anterior commissure to the processus vocalis. The incisions pass through the entire thickness of the vocal cords. In Krause's reported cases the result was recovery from chronic conditions that had resisted astringents for months.

The condition known as ozena laryngis or laryngotracheitis sicca chronica is notoriously intractable. A case of mine of this nature, of long standing, with extensive thick crust formation in the larynx and trachea, responded to treatment with protargol applied with my long tracheal spray, with but moderate improvement. Nitrate of silver was equally ineffective, and I was agreeably surprised, therefore, to find that a spray of potassium permanganate of 12 grains to the ounce was followed in a few days by absolute disappearance of the crusts, which have not returned after weeks, though the

treatment is kept up every three days to avoid a relapse. A rhinitis atrophica and pharyngitis sicca of severe degree still continue, though improved so much by irrigations with the same remedy, in the strength of ½ grain to the ounce, that the patient suffers no discomfort from these conditions. Permanganate of potassium is an ancient disinfectant of great power, and in my hands has proved itself far superior to peroxid of hydrogen, which has so largely supplanted it. It seems to deserve a more prominent place in laryngo-rhinologic therapy than it has at present.

In the treatment of the condition called singer's nodes, removal of these little outgrowths with cutting forceps seems most in favor at present. the galvanocautery and chromic acid being regarded as too uncontrollable. In one instance, in which I was greatly elated at the neatness with which I had removed some singer's nodes with Fraenkel's forceps, the patient disagreeably surprised me by returning the next day voiceless. Terror of the operation has caused an hysterical aphonia that lasted three weeks. Removal of singer's nodes may not improve the voice as much as hoped for, so that patients must not be led to expect too much.

Among the modern methods of treatment to be considered is Laker's vibration massage directed toward the removal of hyperplastic states. It also affects pareses of muscles and hypoglottic swellings favorably, according to the author. Laker, by means of tetanic contractions of the muscles of the forearm, can make the end of a cotton-wrapped probe vibrate 600 to 2,000 times in a minute against the tissues of the laryngeal interior. Coarse motions do harm.

In chronic hypoglottic laryngitis we have a condition that is a constant menace to the life of the patient. The characteristic hypertrophic swelling of the subglottic mucosa is liable at any time to an acute increase that may suffocate the patient. Attempts at operative removal of the swelling below the cords is apt to cause this so that tracheotomy should precede all efforts to remove the swollen hypoglottic mucous membrane by electrolysis, the galvano-cautery or by means of the cutting curettes. Usually, however, the hypoglottic folds are unreachable from above, so that the operation of Sokolowsky, laryngofissure and excision of the hypoglottic mucosa is needed. Schoetz reports two cases in which iodid of potassium caused the subglottic swellings to disapear. There was no history of syphilis obtainable. In other cases the drug proved of no avail.

In conclusion two newer remedies are to be mentioned that have earnest endorsers, ichthyol, which is a non-irritating antiseptic with true astringent properties, causing contraction of vessels and paling of inflamed tissues. It is recommended by Hubbard in chronic laryngitis sicca. Methyl violet, pyoctanin, has great penetrating power, is a powerful germicide and non-irritating. I have had no experience with it in the larynx, but can confirm Breagen's statement that applied along the eschar after the use of the galvano-cautery in the nose it will prevent inflammatory reaction and suppuration. The subject under consideration is large, and I am aware of lack of detail in this article. I hope that it has brought into notice some methods of treatment that should have extensive trial.

288 East Huron Street.

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DISCUSSION.

DR. E. FLETCHER INGALS, Chicago—In spraying the larynx it often happens that the ventricular bands close and the spray does not reach the cords. I have overcome this obstruction by directing the patient beforehand to take a deep inspiration immediately after the spray has been applied and thus the liquid thrown into the vestibule of the larynx is drawn down on the cords. A remedy that has recently come into favor, which I have found of much value in tubercular cases, is the terchlorid of iodin; it may be used in a solution containing from one to two and one-half grains to the ounce of distilled water. It must be kept in a well-stoppered dark bottle and only the amount needed for our treatment should be turned into the atomizer at once. What remains in the atomizer after the treatment has been given must not be turned back into the bottle containing the original solution.

DR. ROBERT LEVY, Denver, Col.—The spray that Dr. Freer has shown us is very similar to one that I have used for some time. His instrument is an improvement over mine, however, in that mine is made on the atomizer and is of hard rubber, whereas his is made detachable and is applicable to any ordinary Davidson spray, which I think is an advantage. In some cases of acute laryngitis, in the form the Doctor mentioned at first, I have been accustomed to use adrenalin chlorid and I have had it used by the patient at home. Repeated applications during the day will keep up the ischemic action, which I have found of great advantage, especially in teachers and singers who must use their voice during the time of the treatment. I must offer a protest against intubation in cases of edema or in cases which are liable to become edematous in the course of the affection. It is a mistake to encourage increased edema by the introduction of the intubation tube. In those cases in which I have seen it used, the edema has continued above and below the tube; I have known it to occur below the intubation tube, but usually it is above. When surgical intervention is necessary, tracheotomy is the only resource.

DR. FREER, in closing—In regard to Dr. Ingals' remarks as to deep inspiration during the spraying of the cords, I think this a good procedure when the larynx is not especially sensitive. When this is the case I use first a spray of cocain. In the majority of instances it is necessary to use the cocain spray before introducing my intra-tracheal spray tube into the larynx.

EDEMATOUS LARYNGITIS; WITH REPORT OF CASES.*

JOSEPH S. GIBB, M.D.
Professor of Rhinology and Laryngology, Philadelphia Polyclinic, Etc.
PHILADELPHIA.

The term edematous laryngitis is intended to describe a disease the underlying process of which is inflammation of a mucous surface, attended by serous transudation into the submucous tissues. To this disease many names have been applied, among which may be mentioned: Phlegmonous laryngitis, abscessus laryngis, edema of the larynx, erysipelas of the larynx, etc. Semon, in a paper on the subject, has called attention to the confusion which has resulted from the multiplicity of terms, and made a very commendable effort to simplify the matter by classifying certain types.

Much of the confusion which certainly does exist in the literature could be obviated if a distinction was sharply drawn between cases in which the symptom edema is present without inflammation, or, as Rice denominates these, the passive cases, and those in which inflammation of the mucous surfaces is an active and conspicuous feature. It is obvious from a study of the literature that much of the confusion has arisen from an attempt to classify under one head all diseases in which the symptom of edema is present.

My attention and interest was drawn to the subject by a case which has but recently been under my close observation. The history is as follows:

ACUTE EDEMATOUS INFLAMMATION OF THE LARYNX; CATARRHAL PNEUMONIA; PHLEBITIS OF THE LEFT LEG.

CASE 1.—On Dec. 29, 1900, H. P., 55 years old, a driver by occupation, presented himself at the Polyclinic. His family and previous personal history was good. He had never been sick. About one week previously, he contracted a severe cold. There was nothing peculiar about this catarrhal attack, and he did not regard himself sick until his voice left him; and it was because of this symptom he came to the hospital.

On admission the voice was completely extinguished and there was considerable stridor in respiration.

Examination: The pharynx was intensely red—the nasal chambers filled with tenacious mucus. The laryngeal mucous membrane was extremely red and the lumen of the larynx much encroached upon by very marked edematous swelling—no view of the cords was obtained. There was much stridor in respiration, especially after a little excitement, e. g., in an attempt to make a laryngoscopic examination.

The condition of the patient in consequence of the laryngeal obstruction was so precarious that he was urged to remain in the hospital so that prompt measures could be taken to relieve him if it became necessary. Instructions were left the resident physician that preparation for immediate tracheotomy be made and that careful examination also be made of the urinary secretion.

He remained in about the same condition until Jan. 1, 1901, when there was marked increase in the stridor, he seemed to the resident physician to be in imminent danger, and I was called. It was evident, on a casual inspection, that the edema had increased. The face was bathed in perspiration and had that unmistakable distressed appearance so common in those in whom the respiratory functions are endangered. An attempt at scarification of the edematous tissue was determined on before resorting to the more serious operation—tracheotomy.

After a number of futile attempts, the tissues were finally thoroughly scarified. There was slight immediate relief, but much more a few hours later. The scarification was sufficient, however, to entirely remove all apprehension of danger from this source, nor was it necessary to resort to any further local measures throughout his illness, though, as will be seen, this continued for a long time.

The result of the urinary analysis was negative on Dec. 29, 30 and 31, 1900, and Jan. 1, 1901. On January 2 the specific gravity of the urine was 1028; a large quantity of albumin was present and there were numerous granular, hyaline and epithelial casts. The daily quantity of urine voided from the time of admission was from ten to fifteen ounces. This condition of the urinary secretion continued, with the exception of two or three days when the albumin disappeared, until January 21, when the quantity voided rose to fifty ounces, and there was a complete disappearance of all abnormal ingredients—these favorable changes occurring co-incidentally with a retrocession of grave pulmonary symptoms, to be adverted to later on.

Following the scarification, as above noted, there was relief to the extreme difficulty of breathing. There was still much stridor and the voice did not improve. The cough became

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incessant, with much expectoration of muco-purulent secretion. There was constant sweating and daily increase of temperature. The symptoms grew progressively worse and it became apparent that the inflammatory condition had extended to the bronchial and probably to the pulmonary tissues.

Dr. Riesman saw the case with me on January 15, and the following notes are the result of his careful examination: *Percussion*—resonance impaired over the entire chest, especially on the right side, to the inner side and below the scapula. *Auscultation*—abundant moist râles over both lungs; no bronchial breathing heard anywhere; a friction sound on the right side over the liver; heart somewhat feeble; no murmurs, no accentuation of the second sound.

The pulmonary symptoms lasted from January 2 to 18, when the temperature began to decline, and by the 21st it became normal in the morning. The urinary secretion increased markedly in quantity and all abnormal ingredients disappeared, the cough lessened and the muco-purulent discharge became less and was readily expelled. The patient was much more cheerful and seemed to be on the road to recovery. However, there was still much sweating—the temperature remained normal for three or four days, when it began to pursue a very irregular and zigzag course. The sweatings increased and he began again to seem quite ill. On the 23d the left leg became swollen below the knee, and was quite painful. The pain increased in the leg daily, and by February 1 a slight enlargement appeared in the popliteal space. By February 3 the swelling in the popliteal space had become softened and gave evidence of a collection of pus. Dr. Roberts made several incisions into the mass and let out a very large quantity of pus.

The further history of this case is more of surgical than medical interest. Several pockets of pus were opened and he continued in a rather unsatisfactory septic condition until April 3, when he was discharged.

The patient is by no means well. The pulmonary and thrombotic features of the case have entirely passed away, but he still has a great thickening in the larynx. His voice is better, but it is probably permanently impaired. There is no stridor except when he has slight catarrhal attacks, and then all the former symptoms of oppression and dyspnea return.

This case presents several features of interest. The apparently trivial onset, succeeded by laryngeal symptoms of gravity, is the first feature to attract attention. His illness occurred at a time when influenzal attacks were rife and, although the attack did not present the usual phenomena of that disease, the subsequent septic symptoms render it quite probable that there may have been infection from this source. We were at first inclined to the belief that the laryngeal symptoms were due to renal trouble, and force was lent to this view from the scanty urinary secretion, and the presence of albumin and a great number of all forms of casts. The subsequent history, in which we note the gradual diminution and final disappearance of these unfavorable renal symptoms, throws some doubt on the renal explanation of the case.

The one feature which stands out prominently, in reviewing the case, is the unquestioned septic condition. Immediately succeeding the laryngeal involvement, pulmonary symptoms developed. The examination by my colleague, Dr. Reiseman, failed to reveal any local point of consolidation, though the subjective symptoms at this time pointed toward the presence of croupous pneumonia. It was Dr. Reiseman's opinion that the pulmonary complication was due to diffuse catarrhal pneumonia of infective origin, and that in all probability the original attack was influenza.

During the continuance of the pulmonary symptoms, evidence of septic infection was shown by shivering, frequent copious sweatings, and an irregular temperature. After passing safely through the pulmonary attack and before cough and expectoration ceased, he showed other evidences of sepsis, the source of which was soon made manifest by the presence of a septic thrombus in the leg.

This case would stand well in Semon's group of cases and lend additional testimony to his theory. It seems probable that this particular form of acute inflammation is due to some pathogenic micro-organism.

It is a matter of regret that an examination of the pus from the abscess was overlooked. The sputum was examined on several occasions; at no time were tubercle bacilli found; pneumococci were found on several occasions.

The second case illustrates that form of laryngeal edema which is unaccompanied with the usual evidences of inflammation. Unfortunately the notes of this case have been destroyed, so that no detailed history can be given. The main features are so indelibly impressed upon my memory as to serve our purpose.

ACUTE EDEMA OF THE LARYNX; UREMIA; INTESTINAL NEPHRITIS.

CASE 2.—The patient was sent to me for the relief of a throat trouble which made breathing difficult. Of his previous history little could be ascertained. As he entered my office the stridulous character of his breathing and the very great effort of respiration was at once apparent. Respiration was a struggle.

An examination of the larynx revealed a pale red mucous membrane, covered by fluid blood, the submucous tissues infiltrated with serum leaving only a chink between the greatly swollen arytenoids; no view of the cords was obtained. The man's condition was so serious that he was urged to enter the Polyclinic Hospital so that every facility should be at hand for an emergency. He never reached the institution. The day following his visit to my office he was found wandering in the streets in the proximity of the hospital, in a semi-comatose condition and struggling for breath. He died before relief could be obtained. By the merest accident, knowledge of his untimely end came to me. The case was of such interest that steps were taken to ascertain where the man had been taken and, if possible, obtain an autopsy. After considerable difficulty we were successful in our search and also in obtaining an autopsy. It is a matter of great regret that the full record of the post-mortem findings are not available. These few facts are well remembered:

The larynx was filled with partially coagulated blood. The mucous membrane presented a shrunken, wrinkled appearance, similar to the hands of washerwomen, clearly indicating a previous effusion into the submucous tissues.

Both kidneys were contracted to an exceedingly small size and were corrugated and distorted. The capsule was everywhere tightly adherent. A well-known anatomist and pathologist, who assisted at the autopsy, expressed the opinion that death was due to rapid edema of the larynx, induced by chronic interstitial nephritis.

We have not the previous history to assist us in summing up this case; it is likely, however, that he had been a sufferer from chronic renal disease for a long time, and this sudden edema was simply one of the many serous transudations so common in cases of this nature.

The case well illustrates a type of laryngeal edema, totally different from Case 1, so different in every detail, save the single symptom, edema, as to make it difficult of comprehension how the two could ever be classed as identical pathologic processes. And yet it is this type of cases which has been classified by some authors under the caption "edematous laryngitis." During the course of the so-called zymotic diseases, e. g., smallpox, typhoid fever and measles, attacks of edema of the larynx may occur.

ABSCESS OF LARYNX DURING THE COURSE OF TYPHOID FEVER (?); EDEMATOUS LARYNGITIS.

CASE 3.—A. B., aged 15, passed safely through what seemed to be an especially severe attack of typhoid fever. In all fair-

ness it seems proper to state that there was a difference of opinion among the attending physicians as to the nature of the primary attack, one side holding to the view that it was undoubtedly typhoid fever, while the other adhered to the belief that influenza followed by broncho-pneumonia with intestinal symptoms was the primal cause. Without entering into a discussion as to the claims of either side, it is sufficient for our purpose to know that the lad was very ill with hyperpyrexia, sweatings, cough, diarrhea, etc., for a period of six to eight weeks.

The worst features of the case seemed to have passed in this time, although the patient was by no means well, as evidenced by irregular febrile seizures and sweating and the formation of abscesses in various portions of the body. He had, however, regained his appetite, the bowels were normal, his spirits had revived and, to the eyes of the attending physician, he seemed on the road to recovery, when suddenly hoarseness and some difficulty in breathing appeared. These symptoms increased rapidly, so that within twenty-four hours the voice was entirely lost and great effort necessary to carry on respiration. Examination revealed markedly edematous arytenoids almost closing the glottis. Intubation saved his life for four weeks, when he sank, worn out by the septic infection. At the autopsy an annular abscess, or rather sinus, was found surrounding the larynx immediately below the vocal cord, having an opening into the larynx.

It is by no means certain that the abscess preceded the edema, although because of the general septic condition such an explanation of the case seems probable. It is conceded, in the light of the autopsy, that this case does not strictly represent a typical case of edematous laryngitis. During life, however, it was indistinguishable from such. It does represent a type described as abscessus laryngis, which is used as a synonym by some authors.

In my experience aphonia is not an unusual symptom in the convalescence from typhoid fever. In most of these cases this symptom is due to inherent weakness of the laryngeal muscles failing properly to approximate the cords.

A few cases have been observed in which interarytenoid edema has been the obstructing cause of faulty approximation. In all these, however, the symptom is a fleeting one and likely due to changes in the blood and also blood-vessels in consequence of long-continued illness, permitting serous transudation, passing away as the strength increases. These cases belong to the passive and non-inflammatory type of edema.

The active inflammatory cases, and these are rare, begin with evidences of local inflammation attended by rapid transudation. The symptoms do not readily subside, but become progressively worse and, unless active measures are taken for their relief, end fatally.

The last case to which I refer complicated an attack of measles.

SEVERE ATTACK OF MEASLES; APHONIA.

CASE 4.—L. B., aged 10, during the course of an unusually severe attack of measles, became aphonic. Evidences of marked laryngeal stenosis rapidly supervened. I was hastily summoned by the medical attendant with a view of intubation. Examination showed the epiglottis and aryepiglottic folds markedly edematous. Because of this latter condition and the difficulty in making a proper laryngoscopic examination in a child struggling for breath, no view could be obtained of the interior of the larynx. It was presumed that the same condition existed as in the epiglottis and surrounding parts.

Immediate intubation was advised. The family physician yielded to the strenuous objections offered by the family and counseled waiting a few hours, to which I reluctantly consented. In two hours the child was seized with a severe paroxysm of dyspnea and died before we could reach the bedside. No autopsy was permitted. We are therefore not able to state positively that which we firmly believe to be the case, namely, that the larynx was the seat of edematous laryngitis.

The pronounced and very plainly visible edema of the epiglottis leaves no doubt in my mind that there was a true, inflammatory, submucous exudate in the larynx, and that the exciting cause was the attack of measles.

It is not at all unlikely that the bacteriologists of the future may, as Semon hints and believes, find the true cause, but in the light of our present knowledge we must be content to point out in our weak and very inadequate way those diseases in which edema of the larynx occurs, and ascribe to these some influence in its production.

The cases herein narrated have been observed in a special practice covering ten or more years. Three of these cases, 1, 3 and 4, were evidently due to some form of sepsis. The second can be explained by grave renal trouble and was not of septic origin. Many cases of edema of the larynx have been observed during catarrhal attacks, as the result of tuberculosis, syphilis or carcinoma, and the result of irritation produced by foreign bodies or irritating fluids which have no place in the type of edema which this report is intended to convey.

Sir Felix Semon, in a very able paper, endeavors to classify under one heading all cases hitherto described as acute edema of the larynx and pharynx, phlegmon of the larynx and pharynx, and angina Ludovici, and ascribes to them pathologic identity. To use Semon's words, "they merely represent degrees varying in virulence of one and the same process; that the question of their primary localization and subsequent development depends, in all probability, upon accidental breeches of the protecting surfaces through which the pathogenic micro-organism which causes the subsequent events finds an entrance, and that it is absolutely impossible to draw at any point a definite line of demarcation between the purely local and the more complicated, or between the edematous and the suppurative forms."

This is undoubtedly a step in the right direction in bringing order out of chaos in the terminology of these processes. One can not read the classic work of Semon without a feeling of admiration for the untiring industry and the patience with which he waited and labored on the subject before he brought his cases and the deductions drawn therefrom to the notice of the profession. In Semon's group of fourteen cases there is but one in which the larynx is alone involved. In the remaining thirteen there are associated varying degrees of inflammation and edema of both pharynx and larynx. Many of the cases appear in some way to be connected with a previous attack of tonsillitis. All of these cases, with the possible exception of the first three of the group, were markedly septic. He does not refer to the passive cases, and hence we infer does not regard them as belonging to the same group, a view in which every thoughtful observer must concur.

The conclusions which a study of the cases observed, and of the literature of the subject teaches, as to the etiology of idiopathic edema of the larynx, is that there are several types of cases:

1. Those in which there is no true inflammatory condition of the laryngeal mucous membrane, simply a transudation of serum into the submucosa—venous engorgements, the result of arteriocapillary fibrosis. To this group belong those cases seen in advanced chronic interstitial nephritis with cardiac and vascular changes. Cirrhotic conditions of the liver also may be responsible

for a certain number of cases, for here also are conditions found similar to the renal. To this group may also be added those mild and fleeting types of edema seen in the zymotic diseases, as already mentioned.

Transudation of serum into the submucous tissues does not occur as readily in the larynx as in serous cavities, or in the loose cellular tissues of an extremity, and in all likelihood requires an exciting cause to induce stasis—a cause furnished by a catarrhal attack or the enervating influence of long-continued illness. These cases are indistinguishable by the laryngoscope from the more actively inflammatory type, but differ widely in the constitutional derangement.

2. As to acute catarrhal attacks, every case of acute catarrhal laryngitis is accompanied by more or less thickening of the mucosa, as is evidenced by alteration in the voice. Submucous edema, however, we must all admit is rare. The records of all clinical services will furnish a fair number of cases of edema. Swollen posterior ends of the cord with interarytenoid thickening is quite a familiar picture. These are transient cases, ceasing when the inflammatory condition to which they are due passes away. It is certainly not easy to reconcile the pathology of this mild type of edema with the grave forms to be considered later.

3. Secondary septic processes complicating these diseases are classified by some authors as zymotic. Aphonia is not an uncommon symptom in these diseases, as has already been pointed out. Many of the cases of aphonia are transient. In still others the edema, to which the aphonia is due, is so excessive as to endanger life, and in these, symptoms of constitutional disturbance are apt to be pronounced. Here again is to be noticed two very dissimilar pathologic processes, save for the one symptom—edema.

The explanation is that one—the mild transient edema—is due to vascular changes incident to long-continued illness and passes away as the strength returns. The other—the severe prolonged edema—is due to septic conditions, sometimes a local abscess and greatly endangering life. These latter are observed in those in whom general septic manifestations have occurred.

4. As to the infectious cases, it is admitted that the line can not be sharply drawn between this form and the one preceding. My object is to point out in this group those cases in which the infection takes place immediately from the pharynx and larynx. The preceding group includes those in which the larynx is secondarily involved. To this group the term "Acute Idiopathic Infectious Edema of the Larynx" could with propriety be applied. It is to this class that Sir Felix Semon has endeavored to establish a pathologic identity and suggest the possibility of one pathologic micro-organism. The prevalence of epidemic influenza within the last decade or so has furnished many examples of this grave disease.

The history of the cases stamps them at once as of an infectious septic nature. The initial influenzal attack, or perhaps merely catarrhal attack, may not be severe. The local inflammatory condition and accompanying dyspnea is rapidly followed by pulmonary and general infection and sepsis.

The large number of cases of this form of infection, in which influenza has been associated, causes a suspicion that there is something in the latter disease favorable to the development of a product which finds a fruitful soil for its propagation in the mucous membrane of the pharynx and larynx.

It is conceded that the classification of the various forms of edema of the larynx herein attempted is imperfect or more or less artificial. The object of this paper will have been attained, however, if it leads other and better investigators to study the subject, the ultimate result of which will be a classification free from confusion.

TOTAL EXTIRPATION OF THE THYROID GLAND.*

GEORGE F. COTT, M.D.

Clinical Professor of Otology, Medical Department, University of Buffalo.

BUFFALO, N. Y.

On Sunday morning, July 15, 1900, I was hurriedly summoned to attend a male, aged 16, and found him breathing heavily while sitting on the edge of a bed. His voice was clear, indicating that the obstruction was below the subglottic region. As he was quite cyanotic, he was placed in a chair with his head tilted back and a 2 per cent. eucain solution injected under

E. W., aged 17: 11 months after operation.

the skin. The trachea was easily opened and a silver tube introduced. There was, however, no relief. Then a soft-rubber catheter was run down into the trachea, with instantaneous relief. His heart was in very bad shape, but he was watched closely during the night and strychnin and stimulants were freely administered. I left word that if the patient rallied I would remove the gland causing the obstruction. Next morning, Dr. Bingham, who had the case in charge, telephoned that the boy was all right and could undergo the operation.

It was proposed to operate under eucain, and about one-third of the gland was loosened therewith. The pain, however, was so great that chloroform was finally administered, after due notice had been given the parents of the risk run in the weakened condition of the patient. During the progress of the operation, the heart became quite irregular and weak and hypodermics of nitroglycerin, digitalis and whisky were given; but very little improvement took place. Subcutaneous injections of normal salt solution, of perhaps 400 grams each side, was then resorted to, and thus the patient tided over. After the gland was displaced, an attempt

* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

was made to sever it at the isthmus, but bleeding was profuse. Tying the vessels did not seem to make much difference; the forceps were therefore left in the wound for several days. The catheter was withdrawn the day after the operation and the wound allowed to close. He made an uninterrupted recovery and is to-day, June 4, 1901, in perfect health.

He has gained 30 pounds and grown 3 inches. He traced his trouble back but eight months, and the dyspneic symptoms about a week. The gland was very firm and weighed five and one-half ounces. The boy took sick at the beginning of vacation and was ready for school, September 1.

LARYNGO-FISSURE FOR PAPILLOMA.

A girl, aged 5, became quite hoarse, which condition was not relieved by treatment; two years later she was sent to me, and, as she allowed very little manipulation, I intubated her forcibly. After a week the tube was removed and some improvement seemed to take place, but soon the dyspnea returned and tracheotomy was performed. For the next two years I tried to have the

R. W., aged 9; 3 weeks after operation.

little girl tolerate the instruments, but she would not learn. Finally I proposed to split the larynx, and this was done, on May 3, 1901. The incision extended from the cricothyroid membrane through the larynx to the hyoid bone, and as the larynx was pulled apart the growth popped out, as it were, and was removed with a snare. There was so much bleeding that nothing more could be done, and the larynx was closed with catgut and the outer wound treated in the same way. Union took place by first intention, and the little patient made an uninterrupted recovery. The tracheal tube was removed in two weeks. The growth was situated subglottic, immediately below the cords, postero-laterally, by a broad pedicle which can be plainly seen. Any recurrence will be reported to the section.

531 Mooney-Brisbane Building.

DISCUSSION.

DR. J. HOLINGER, Chicago—I would like to ask what the Doctor expects as to the possibilities of myxedema, according to the sense of Cobin, who has done several extirpation and uniformly found a condition develop which was extremely deplorable for the patient as well as for the surgeon.

DR. COTT, in closing—The first symptom in this case was noticed about eight months before the operation. I will say that Dr. Kocher is the best authority on the subject, since he has done over a thousand extirpations and his son has done, so far, four hundred. In this case I left a little piece of the gland in the neck, perhaps a half or three-quarters of an inch, because of the bleeding. In order to control the hemorrhage I had to leave the forceps on for several days. It is supposed that when a portion is left, even if that portion be transplanted, as for example into the abdominal cavity or anywhere else, myxedema does not develop; hence, I do not expect it to develop in this case. If, however, that should occur, I shall report to the Section.

TYPES OF MEMBRANOUS PHARYNGITIS.*

W. E. CASSELBERRY, M.D.

Professor of Laryngology and Rhinology in Northwestern University Medical School; Laryngologist to St. Luke's and Wesley Hospitals, Etc.

CHICAGO.

Under the irritating action of any one of several species of infectious micro-organisms, there exudes upon the surface and into the substance of the pharyngeal mucosa a whitish-gray deposit known as a false membrane or exudate. The histologic changes consist of necrosis of the epithelium and alteration in the vessel walls with the exudation of a coagulable albuminoid substance derived from the blood serum and mixed with fibrin, desquamated epithelium and leucocytes. While the membranes differ somewhat in physical characters and composition in accordance with the intensity of the inflammation and the species of infecting germ, the distinctions are so slight as to be unreliable in diagnosis, except in connection with bacteriologic examination, supported by a close study of the symptom-complex. A familiar form of diffused exudate in the pharynx is that excited by the Klebs-Loeffler bacillus, which receives the distinctive title of true diphtheria. Most of the other diffused pharyngeal exudates have been grouped under the name simply of membranous pharyngitis, but recently there has been an attempt to classify the types of membranous pharyngitis in accordance with the kind of infecting organism, and to affix to each its characteristic chain of symptoms and physical appearances. This classification is far from complete, and good examples with bacteriologic confirmation and close clinical study are still needful. There are forms of membranous pharyngitis which commence apparently as follicular tonsillitis, in which the exudate, failing to remain punctated and limited to the lymphoid structures, spreads over the pillars to the uvula and posterior pharyngeal wall. The closest scrutiny should be given these cases in order to exclude diphtheria, but this done it is sometimes found that the only organisms discoverable are those which predominate in tonsillitis, the various staphylococci and streptococci. The systemic symptoms vary much in these cases, and the limited number of cases yet followed seems to indicate that the dominating organism is the main factor in influencing the course of the disease. Thus we speak of staphylococcus pharyngitis, streptococcus pharyngitis, pneumococcus pharyngitis, etc., although in none of these as yet has the micro-organism been made to conform to all of Koch's postulates determining the specific relation of a germ to disease. The following case will serve to exemplify what is now known as staphylococcus pharyngitis, while presenting points of unusual interest with respect to repetition of attacks, the extensive distribution and brief duration of the false membrane and the slight constitutional effect.

* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

CASE 1.—Mr. S., an intelligent man of affairs, robust, and of middle age, gave a history of having previously had three attacks identical with the two about to be related, making five altogether. The first passed for diphtheria, but without a bacteriologic examination. The second occurred in Boston where a careful culture-test excluded diphtheria. The third occurred while yachting and without medical attention. The fourth attack, and first under the author's observation, commenced like an acute follicular tonsillitis when first seen, on the morning of Nov. 23, 1898. The temperature rose during that day to 103 F., but in the following twenty-four hours, while the membrane extended, forming an uninterrupted plaque over both tonsils and spreading over the pillars and velum, the temperature fell to 100 F., and the patient felt generally fairly well. By evening of the next day, November 24, the false membrane had extended over the posterior pharyngeal wall and both surfaces of the velum palati and had gained much in thickness. It so resembled diphtheria that antitoxin was given without waiting for the culture. The same evening, and the following day, cultures were repeatedly examined independently by the Chicago Health Department and myself, but exhibited mainly staphylococci, with positively no diphtheria bacilli. The membrane began to shred off on the third day, which was so like the effect of antitoxin on diphtheria that a culture was submitted for further examination and animal injection, to Dr. R. H. Harvey, pathologist to Mercy Hospital, who made the following report: The growth on Loeffler's serum shows mixed infection, mainly staphylococci. No Klebs-Loeffler bacilli were found. As a control test the culture was removed on a platinum loop and inserted beneath the skin of a guinea-pig, under aseptic precautions, with absolutely no effect on the animal. On the fourth day the patient was without fever and able to go to business, feeling quite well, although the membrane did not wholly disappear until the seventh day.

As the infection in this case evidently originated in the tonsils, and these were moderately hypertrophied, I subsequently made a thorough fragmental excision, with a view to preventing further recurrence. Nevertheless, 1½ years later he suffered a fifth attack. It commenced in the merest remnant of tonsil tissue, deep between the faucial pillars, and a profuse thick whitish exudate rapidly extended over the pharynx, as before. The local discomfort was but moderate, more than usual in diphtheria, less than in streptococcus pharyngitis. There was considerable fever the first day, but none thereafter, and no systemic depression, the patient going to business and coming to the office daily. The Columbus Medical Laboratory reported upon the culture as follows: "April 23, 1899, specimen from Mr. S.—diphtheria bacilli absent; pus cocci and saprophytic bacilli present. [Signed] Adolf Gehrmann." Of the pus cocci, in my own examination staphylococci very largely predominated. The patient received no antitoxin during this attack, neither did the false membrane seem to loosen and commence to shred off so promptly. Otherwise the duration and course of the disease was the same as for the previous seizure. It remains to be determined whether diphtheria antitoxin does not have some favorable influence in arresting and loosening membranous exudates other than those caused by the diphtheria bacillus, as appeared to be the case in this patient's fourth seizure. Its alleviation of the crustation and fetor of atrophic rhinitis indicates that its action is not absolutely confined to diphtheria.

It is impossible to assert that the staphylococci which so largely predominated in this case, was the real infecting agent. Efforts to reproduce membrane from it in animals have failed. It is possible that some other still hidden organism may be the real cause. Staphylococci are commonly present in the mouth and crypts of the tonsils. They seem to become actively pathogenic only under certain conditions; also, as in this case, a culture usually reveals more than one germ, mixed infections cause varying manifestations and interfere with a rigid classification; nevertheless, where one organism so largely predominates, together with an absence of the specific diphtheria microbe, especially when it is found that the principal germ species excites, respectively, characteristic symptoms, it justifies the recognition of types named from the dominating organism.

The characteristics of staphylococcus pharyngitis as exemplified by this case have also been formulated by Bullock,[1] cited by Wolfenden and by Jaques.[2] The temperature rises suddenly, 102 to 104 F., and falls rapidly on the second or third day, even while the membrane continues to extend. The constitutional effects are slight and the duration brief, recovery occurring in from six to eight days. The pain in the throat is but moderate. The membrane commences in the tonsils and thence extends. It may be profuse, thick, soft, whitish, not necrotic, and loosens or dissolves quickly. Membrane is little disposed to form in the larynx, although spasmodic laryngitis may be excited.

The condition is quite different where streptococci predominate, as exemplified by the following case:

CASE 2.—Mr. D. J. E., aged 40 years, had distinct malaise and soreness of the throat for two days, succeeded by a chill and a temperature of 104 F. His pulse was 100, skin perspiring, face flushed, and there was mental hebetude and enlargement of the cervical lymphatic glands. The tonsils were only slightly enlarged, but were deeply congested, and exhibited at first a punctated exudate which soon formed a plaque and extended in the form of a thin milk-like film over the anterior pillars and part of the velum. The rest of the throat was highly inflamed and very red and sensitive. Convalescence was not complete for about twelve days. No diphtheria bacilli, but numerous streptococci associated with staphylococci were found.

Thus the average characteristics of streptococcus membranous pharyngitis are a more gradual rise and decline of the temperature, likewise reaching 102 to 104 F. The systemic depression is pronounced and the duration ten or twelve days. The membrane is apt to be thin and scanty, of slower formation and longer duration. The throat elsewhere is highly inflamed, very red, and perhaps edematous. It may border upon or be identical with erysipelatous pharyngitis or pass into a phlegmonous pharyngitis. The throat is very painful and the cervical glands swollen. There is a decided tendency to involvement of both the nasopharynx and larynx. In the larynx edema and swelling, as well as membrane, are causes of stenoses, and uninfluenced by antitoxin, while intubation must be maintained for two or three weeks.

In scarlet fever the pseudomembranous type of pharyngitis may evolve from the primary inflammation during the first few days, or it may not appear till about the second or third week, as if it were a secondary infection by the diphtheria bacillus as, indeed, it often

is. Heretofore the primary inflammation has been ascribed to a streptococcus infection, but recently Class[3] demonstrated what seems to be the specific organism of scarlet fever, a large diplococcus, which is present in the blood, scales and throat. Other organisms, especially streptococci are present and doubtless exert an influence. Diphtheria bacilli are present in from 10 to 50 per cent. of scarlatinous exudates.

Pneumococcus membranous pharyngitis, due to Fränkel's organism, almost to the exclusion of other germs, has been demonstrated,[4] but as yet I have been unable to verify, by precise bacteriologic methods, cases in which, from the association of pneumonia, I have suspected this condition. The pharyngitis is said to be ushered in with rigors, high fever and pronounced exhaustion. The false membrane is white, fibrous and resistant and ceases to form at the end of a week.

Emil Mayer[5] has recently reported a case of chronic recrudescing membranous pharyngitis, determined by elaborate bacteriologic methods to be due to the bacillus of Friedlander. The enamel-white membrane would recur at intervals of a few days, always cover the soft palate and sometimes the entire pharynx, remain one or two days and then exfoliate. Five other cases, some of them acute, are reported in the "Annals of the Pasteur Institute."[6]

A membrano-ulcerative angina in children, in which ulceration always follows membrane formation, is described from Paris, by Athenasin,[7] as due to the conjoined presence of the fusiform bacillus and the spirillum of Vincent.

Also, thrush, aphtha or soor, due to the oidium albicans, while usually discrete and affecting the mouth, occasionally becomes confluent and involves the pharynx, when it constitutes a type of membranous pharyngitis. It affects mostly children and adolescents, but likewise adults who are debilitated from other causes. I have observed it in advanced tuberculosis, when it is apt to hasten a fatal termination.

Pharyngitis leptothricia, while usually chronic and confined to the tonsils and lymphoid tissues, may involve the pharyngeal mucosa and even occur in an acute form, as in one case which simulated diphtheria.[8]

Still other conditions which should be kept in mind in making diagnoses are the mucous patches of secondary syphilis, herpes and pemphigus, all of which, while commonly discrete, do exceptionally occur in the pharynx in diffused confluent form, closely simulating membranous pharyngitis.

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DISCUSSION.

DR. EMIL MAYER, New York City—The Doctor has, in his usual way, presented the subject so thoroughly that there is but little to add. I would only emphasize the need of further examination beyond the mere throwing in of light and visual examination. In the case that the Doctor mentioned of membranous pharyngitis that was under my care, the method of bacteriologic examination was carefully described in detail, because nothing of the kind had been done before. In every one of these cases coming to us, in which there is the slightest question, the most thorough examination should be made. The disease remains for a long time; just as in the skin, so it is in the mucous membrane of the pharynx. But in the case cited there was simply a marvelous amount of exfoliation. In a few days' time there was a white coating covering the whole of the soft palate, which in a few days would disappear again.

DR. B. R. SHURLY, Detroit—Most interesting would be the prognosis, which we would immediately figure upon, if we knew the bacteriological identity of the various forms. Our treatment must be modified by the special form of germ with which we have to deal. Also, the relative tendency of these different bacteriological forms to invade the adjoining mucous membranes would be a most important problem. The natural tendency of about 15 per cent. of the Klebs-Loeffler exudates to invade the larynx is very familiar to us, and it would seem to me that the exudates arising from these other modified forms of membranous involvement would carry with them a much less number of laryngeal involvements.

DR. EMIL AMBERG, Detroit—In connection with this subject I should like to call attention to a statement made by a Detroit physician, before a medical society. About a year ago he had a case of scarlet fever in a family with several children. He used antitoxin with other members of the same family, as a preventive measure, and he thought the antitoxin prevented the further spread of scarlet fever. A similar statement was made by a French physician, if I am correct. I would ask Dr. Casselberry in closing to enter upon this most important point. Naturally as mere hypothesis I may suggest that we, perhaps, may get a better knowledge of the pathology of these conditions exjuvantibus. It is not impossible that we may have in future, instead of the differentiation which is going on nowadays, perhaps a unification.

DR. J. HOLINGER, Chicago—One of the main features is the fact that we can not depend upon the looks or the extent or any other characteristic of the membranes in the differential diagnosis between the true diphtheric membrane and the streptococcic or staphylococcic or any other form of membrane. You know the diagnostic point was given that the diphtheric membrane is usually more compact and in patches and pretty early transgresses the limits of the tonsils. On the other hand the other membranes, the streptococcic membranes, are much more limited to the tonsils and not quite as voluminous. Such a differentiation is absolutely impossible. A case came under my observation only a short while ago. A friend of mine, a physician in Chicago, complained just a little of sore throat, hardly any of malaise, and in a largely joking way he asked us to look into his throat. There was scarcely anything to see, but I advised him to have a bacteriological examination made. He went to the health office and came back with a diagnosis of diphtheria. The Klebs-Loeffler membranes have been observed to disappear in a short time, so that the diagnosis must depend upon the microscopic examination.

DR. CASSELBERRY, in closing—I would emphasize what Dr. Mayer has said in reference to the thoroughness of bacteriological examinations in all these cases, and especially in those in which the diphtheria bacillus is suspected. Now, while I have reported these cases, one as a streptococcus pharyngitis and the other as a staphylococcus pharyngitis, it is questionable whether those micro-organisms are the fundamental causes of the conditions. They may multiply without being the actual infecting organism. But no other organism having been found, these are assumed to be the cause of the disease. In regard to herpes, you will remember that it was mentioned in the paper as one of the conditions that must be distinguished. Under certain conditions, it might be very difficult to differentiate herpes from other types of membranous pharyngitis where there was no herpes elsewhere on the skin surface to suggest herpes of the throat. I am satisfied from experience that the streptococcus inflammation does often extend to the larynx: perhaps not as often as the membranous exudate of true diphtheria, but with some frequency, and these cases are little influenced by antitoxin. Edema is a prominent feature in them. The suggestion regarding the possibility of antitoxin exerting a favorable influence on other types of pharyngitis, not diphtheric, I simply throw out as a possibility. We know that the

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use of normal salt solution and several other substances injected into the circulation stimulates the organism. It is possible in certain forms of pharyngitis other than diphtheria, that antitoxin may have a beneficial effect.

THE RELATION OF THE MIDDLE TURBINATE BODY TO CHRONIC NASAL DISEASES.*

L. H. BAKER, M.D.
BAY CITY, MICH.

Chronic nasal catarrh is so prevalent on this side of the Atlantic as to have received the epithet of "the American disease," and the failure of medical men to find means for the cure or amelioration of the disorder has become an opprobrium to the profession and a prominent feature in the bids of the charlatans for patronage. We can not ignore the influence of climate and habits of living among us as the exciting causes, but there are long periods of the year in which these are not especially active in keeping alive the trouble, so we must seek elsewhere for the causes which operate to prevent the natural tendency to spontaneous recovery which exists in the presence of acute nasal disorders.

The easy accessibility of the inferior turbinate body, and its proneness to participate in all nasal irritations and respond by swelling and producing nasal obstruction, has made it the scapegoat for the rest of the offending organ, and it has been scared and cut, pinched and stabbed without mercy until, if it had had a tongue, its prayer for relief would have ascended to the skies.

Acute observers long since recognized that chronic nasal disorders existed which were out of the sphere of influence of the inferior turbinate, but the weight of authority favored nasal stenosis as the chief cause of nasal disease, and the possibility of other factors being more active than this one was overlooked. My purpose in the present paper is to call attention to the much greater influence which the middle turbinate has upon the course and progress of nasal disorders, in the hope that it may assist the work of others along the same line, and sooner usher in the day when we may promise our patient with chronic nasal troubles a cure which will stay a cure.

In this, as in other diseases a knowledge of the anatomy of the organ involved must first be had before we are in position to know what are pathologic changes; hence, I will hastily review the anatomy of the middle turbinate.

The middle turbinated body is so located as to be in the most intimate and important relations with the meatuses and accessory sinuses of the nose, the olfactory nerve and the most sensitive portions of the septum.

In its normal state this body protrudes from the side wall of the nasal chamber and is bent sharply downward, lying parallel to the septum and midway between it and the lateral wall. It occupies most of the space between this wall and the septum from its point of attachment down close to the superior surface of the lower turbinate.

In the living subject the space between the turbinate and the septum or turbinate and side wall varies between one-twentieth and three-sixteenths of an inch, but this space may be obliterated by swelling of the membrane or hypertrophy of the bone.

The turbinate covers the outlets of the maxillary antrum; the hiatus semilunaris in which are the orifices of the anterior ethmoid cells and of the frontal sinus; while its rear portion is in close relation with the sphenoidal foramen, all of which openings are the outlets for considerable sized cavities liable to inflammation consecutive to disease of the nasal membranes.

The soft tissues of the middle are much less erectile than those of the inferior turbinate and when thickened are less amenable to shrinkage by medicinal means, as cocain, suprarenal extract, etc.

The shape and size of the middle turbinate varies considerably within what may be termed physiologic limits. For instance, it may be thin and knife-like from front to rear, with uniform thickness and equal spacing from the lateral walls. Again, its attachment varies greatly, sometimes being low down and again very high; the horizontal portion may be wide or scarcely demonstrable; the anterior and the middle or the posterior part may be either wider or thicker than the balance of the bone. According to these variations does the anatomical relation to the surrounding tissues vary, but so long as there is no pathologic change or inflammation present these variations do not signify.

The bone is very thin, being filled with pneumatic cells with fragile lamellar walls. From various causes, developmental or nutritional, these cells are prone to enlargement, altering the structure, shape and relations of the bone to surrounding parts.

The soft tissues overlying the middle turbinate bone become edematous when inflamed or irritated by discharges from neighboring cavities, and by their swelling close off the upper meatuses and the outlets of the various sinuses. The sinuses are slow to become involved in inflammations of the nasal cavities, and are also slow to recover from them. They are occluded by the swollen turbinate, which in turn is irritated by their discharges, and the condition is thus self-perpetuated.

With the obstruction of the meatuses acute inflammations soon pass over into chronic, and a creamy pus exudes continually, which running over the mucous membrance, produces granulation tissue just as a similar discharge elsewhere, and the abundant serum supply, aided by gravitation often makes them hypertrophy to an enormous degree.

The mucous membrane of the middle turbinate, having to stand the brunt of the irritation, is the first and very often the sole seat of polypoid growth. Every one who removes polypi with the snare, under good illumination, will have seen, on removal of those lying toward the maxillary antrum, a gush of pus as if the stopper of a bottle had been removed. This issues from some of the sinuses and, however frequently and thoroughly you may remove the polypus, you will not usually cure the discharge except you remove the turbinate, owing to the swelling of the membranes retaining the discharge until new polypi form. The most careful extirpation with snare, curette, caustic or cautery will not cure them until the turbinate is removed either in whole or part.

Very often polypi are concealed above and behind, and can not be seen or reached by the probe, and yet are found on removal of the turbinate, it would be impossible to cure such a case and leave the turbinate *in situ*. It is a common practice to cauterize the base from which polypi have sprung, with a view to checking their formation, but my experience is that this procedure fails more often than it succeeds, while it is a fruitful source of adhesions which are very obstinate to removal. In some of these cases the number of polypi concealed by the turbinate is astounding, equaling or exceeding those that were visible before it was taken out.

* Read in the Section on Laryngology and Otology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

In a paper before this Association, read at Columbus, Ohio, Dr. Holmes stated that "hypertrophy of the middle turbinated . . . is, like the polypi so often associated with it, generally secondary to empyema of the accessory cavities." This has come to be the view of many competent observers, and I firmly believe that the oftener removal of the turbinate is practiced in this condition the more firmly will the profession become convinced of the soundness of this position. A second indication for removal of the middle turbinate is sinus occlusion by swollen membrane which is not yet polypoid and which does not respond to the recognized modes of treatment by cleansing and disinfection.

In this class of patients the membrane seems irritable and swells to the occlusion of the sinuses, but either from the pus being produced by other organisms or because of individual difference in resisting power does not go on to form a polypus. No method of cleansing which has ever been used will be efficient with these patients until the obstruction is removed, and this is impossible while the turbinated body is left *in situ*.

I have known two of these patients to die from cerebral involvement, who I am sure could have been saved by early removal of the turbinate so as to provide free drainage from the infected sinuses.

A third indication for removal of the middle turbinate is fetid crusting of the discharges on the upper portion of the nasal chambers, in nonspecific cases. Cobb[1] refers to the cure of cases of pharyngeal crusting by removal of the hypertrophied rear portion of this bone, and in case this can be demonstrated to be the only part involved it is sufficient, but I extend the operation to the whole bone whenever the crusting extends to the middle or anterior portion of the middle fossa.

A fourth indication for removal is so-called "bullous hypertrophy," which is not a true hypertrophy of the bone, for the cells are simply ballooned out and the mucous membrane overlying is atrophied. The inferior turbinate is sometimes entirely absent as a result of the atrophying process extending to the whole nasal chamber.

The membrane overlying the middle turbinate will be found covered with a number of bluish umbilicated spots resembling the mouths of tonsillar crypts. Secretion is excessive but dries and crusts, and the only cure is removal of the bone, which appears to be the focus of infection. It is remarkable how rapidly such a patient improves after the operation.

In the fifth class, as has been mentioned, on the septal side the turbinate lies in close proximity to the most sensitive area of the nasal mucous membrane, and when contact occurs various disturbances of the nervous system arise. Thus are produced severe sneezing, coughing, nasal reflex asthma, hydrorrhea, headache, various eye reflexes, vertigo, tinnitus and even chorea and epilepsy, any one of which may be severe or obstinate enough to require removal of the bone as the offending cause. I have in the past year had two patients in whom peristent and ceaseless sneezing was the only symptom, but who were cured by this means after failure of other remedies.

A sixth class is that of vasomotor rhinitis, running along into other than the normal period of the year, who with the return of patency and improved breathing still suffer from pressure, sneezing, asthma, reflex cough or congestion of the eyes. On examination the turbinate is found crowding tightly against the septum and does not admit the thin probe after a liberal use of adrenal extract. I do not contend that removal of the turbinate will cure such a case without other treatment, but it will greatly shorten the period of suffering, which is a priceless boon to these patients.

I operate as follows: After as thorough cleansing as possible I apply 8 per cent cocain with a pledget of cotton on the applicator, followed by thin pledgets laid along the upper surface and between the bone and outer wall, where they remain about ten minutes. Suprarenal extract or adrenalin is then applied, which procures an almost bloodless operation. Holmes's middle-turbinate scissors, right and left, are then used, and the attachment of the bone to the lateral wall divided from before backward. If the rear portion is out of reach of the scissors it is cut off with the snare. The cavity is packed with a long thin strip of iodoform gauze, which is removed usually on the following day and generally no more packing is required. Frequent cleansing with borax solution is done by the patient, and healing is promoted by insufflations of dematin, a lead iodid compound, which for this particular place has proven better than any other substance tried. Performed in this way the operation is painless and practically bloodless, and brings to a satisfactory end many otherwise tedious or hopeless conditions of disease.

1. Archives of Otology, vol. xxix, Nos. 2 and 3.

DISCUSSION.

DR. J. F. BARNHILL, Indianapolis—It must be quite clear to all who practice rhinology as a specialty that we must often look beyond the nasal channels themselves if we would find the seat of the nasal disorder we are called upon to correct, for it is undoubtedly true that in many instances the discharge of which the patient complains, and the suffering he endures, is located entirely beyond the nasal fossæ. This fact is becoming so well understood that many rhinologists are beginning to look upon the nasal fossæ as being only the ducts of the accessory sinuses, and one of the main functions of which is to carry off the secretions of the large mucous area lining these several cavities. Now several of these sinuses empty into the nasal fossæ at a point in such intimate relation to the middle turbinate body that the latter organ can not become much enlarged or otherwise diseased without seriously interfering with sinus drainage, a fact I believe entirely sufficient to explain the pathology of a considerable percentage of nasal diseases. The various operations which the essayist has advised and described for the betterment of the drainage of this region, are rational procedures, and when done for the purposes of relieving pressure symptoms or defective drainage are as beneficial as almost any other intranasal operation with which I am acquainted. In regard to the cauterization of the bases of polypi after their removal, I must confess that I have felt skeptical of anyone's ability to locate the base sufficiently well in cases where the growth has been as well removed as it should be, to be able to cauterize it without doing harm to the surrounding parts. Cauterization of any part under the middle turbinate body and in the vicinity of the ostium maxillare, is apt to result in too much inflammatory discomfort, and personally I have always felt satisfied I had done the best for my patient when I had removed the growth so closely that I was afterwards unable to find any base to cauterize.

DR. W. E. CASSELBERRY, Chicago—I agree mostly with what the essayist has said in reference to this operation and the indications for it. I think he has drawn clearly the indications for the removal of a part or the whole of the middle turbinated body, and there can be no doubt that great benefits accrue to the patient in consequence of the operation. However, I consider that the need for the resection of the middle turbinated body should be real and evident and that the operation should not be made for trifling catarrhal changes. Polypoid degeneration; to promote access for radical removal of nasal polypi; to promote drainage from the ethmoid cells in edematous and suppurative ethmoiditis and to allay pressure symptoms, especially in certain cases of asthma and migraine, are the main indications. In most cases of empyema of the max-

illary sinuses drainage by this means alone is inadequate. The operation is not devoid of danger either from infection or from hemorrhage. Adrenalin certainly limits hemorrhage at the time of operation, but often it is far from bloodless at the moment, and secondary hemorrhage is frequent and may be profuse, even dangerous. I have recently seen in consultation such a case which required thorough anterior and posterior packing to control the continuous profuse bleeding. Adrenalin failed to control it. Adrenalin appears to be followed by a secondary turgescence, similar to the reaction of cocain, which seems to favor secondary hemorrhage; but it is not the sole cause, for subsequent bleeding occurs even when adrenalin is not used. The only safeguard is to pack the field immediately after the operation with iodoform gauze or surgical lint, which may remain a day or two.

DR. G. V. WOOLLEN, Indianapolis—I am very much pleased to see the tendencies that we witness in this paper. Among my first trainers was Woakes of London, who was then very much hooted at as being a fanatic on necrosing ethmoiditis. I was impressed that the middle turbinate was the chief offending point in the nose. Years ago I read a paper before the Mississippi Valley Medical Society on nasal differentiation, and I still think that the idea should be carried forward, that we should not treat the nose as a whole, but that we should differentiate between the different parts of the nose. Dr. Casselberry and some present may remember my paper at Detroit, which was on the "Anterior Tip of the Middle Turbinate." When we come to consider the middle turbinate we have to differentiate as to its difficulties, and the various other things that we have to deal with. I have never heard of any one calling attention to the various cavities that empty into the nose and nasopharynx by number. There are fourteen of them. Four of the cavities that drain into the nose are influenced by the middle turbinate. I had recently a case of great interest, wherein an attempt had been made to deal with antral disease through the mouth by removing a tooth; it was wholly relieved after removing the middle turbinate and getting out four pieces of curled wire through the nasal opening that had been used to keep the opening in the mouth free. My experience is that we can deal with the antral cavity very often through the nose. I can understand how the constriction of the orifices take place in some cases, but the more I deal with the middle turbinate the more I am convinced that we may accomplish very much. I have found the greatest difficulty where there is a general deviation of the septum, above which, you have a large turbinate. I was scored very freely in my early experience because I called attention to the middle turbinate as the offending point, but we are awakening to the fact that the initial lesion of the catarrhal disease is largely in the ethmoidal region, the veritable "storm center."

DR. C. M. COBB, Lynn, Mass.—It appears to me that we can not emphasize too strongly the importance of drainage in the nose. So far as I can discover there is no essential difference between a chronic discharge into the nasopharynx and a chronic discharge into any other part of the body. You simply have a cavity to drain, and the drainage is sufficient; hence, the constant or intermittent discharge into the nose or throat. The gynecologists have gone over practically the same ground. They have had their stage of catarrhal inflammation and their stage of ulceration. They have at last learned that a chronic discharge means a diseased cavity which is not well drained. In rhinology, the whole point is the question of drainage from the accessory sinuses. If you secure drainage you remove the toxic infection. I wish to call your attention to the fact that often the anterior part of the middle turbinates is not developed; and the middle turbinate may be very small. In a large proportion of the cases of chronic catarrhal pharyngitis, the middle turbinate, if not well developed, contributes to the condition.

DR. D. A. KUYK, Richmond, Va.—Dr. Baker did not mention a condition that has been of much interest to me, the disturbance of mentality produced by hypertrophy of the middle turbinate. I have had quite a number of cases of profound disturbance of mentality cured by the removal of the enlarged middle turbinate.

The absolute constancy of the pressure, day and night, produces in certain patients a condition of mental disturbance that is alarming; there is no cessation of the discomfort; relief is sought in vain. The patient becomes morbid, discouraged; loses all power of resistance; realizes that his mind is no longer what once it was; yields to his own fears of mental unsoundness, and becomes the victim of dire despair.

The removal of the offending turbinate relieves his symptoms. A good tonic treatment, with insistent and persistent encouragement, soon pulls the victim out of his slough of despond and restores him to his former self.

After intranasal operation when I pack I use cotton. Gauze seems to insinuate itself into every crack and crevice, to hang on to every minute bony spicule or irregularity. It is so strong that no matter how well it is soaked before removal, it pulls and tears the tissues, causing often an uncomfortable hemorrhage, no matter how carefully it is removed. Cotton, when any is adherent, does not injure the tissues; for, only the loose cotton is removed, the little adherent particles remain *in situ;* they do no harm and in a day or two come away of themselves.

As a styptic, a 20 per cent. solution of alumnol and undiluted hydrogen dioxid of each equal parts, is in my hands most satisfactory. I believe the internal administration of 10 grs. quinin, 5 to 10 hours before operation, diminishes the amount of blood lost during the operation. Especially was this so before the use of suprarenal capsule solutions; it lessens the danger of secondary hemorrhage.

DR. E. FLETCHER INGALS, Chicago—I have found very satisfactory, surgeon's lint thoroughly impregnated with boracic acid and iodoform. It may be left in place three to five days, if the physician sees fit; but usually two or three days is sufficient. I can not see any objection to having the patient use adrenalin every hour or two as long as may be necessary, but I doubt whether it would stop a hemorrhage from a vessel of any size. I do not think it would stop hemorrhage from one a millimeter in diameter. In the management of the turbinate I prefer to remove the bone beneath the mucous membrane, by means of a very rough dental burr, which can be easily done without sacrificing the mucous surface. I think the after-results are better.

DR. EMIL MAYER, New York City—The method I employ is that described by Dr. Casselberry. I think I can answer the question suggested by one speaker as to the lasting effect of the suprarenal extract. I am one of those who believe that out patients should not go any distance away and especially that they should not go about unless the nose is packed. I pack all my cases. In two cases I put the patients to bed and did not use any packing, but I used only the hemostatic that has been referred to and in two days' time I found they had entirely healed. In one I used it every two hours. The preparation I used then was adrenalin. The effect was very satisfactory, but we should all remember that long before the days of these hemostatics patients were operated upon and put to bed and no packing used. Dr. Holmes of Cincinnati, for instance, reported such cases; they were operated upon in a hospital and put to bed. Probably one reason why many of us have better success is because we treat these cases carefully, especially as regards after-treatment.

DR. J. HOLINGER, Chicago—The main feature in the removal of the turbinate is the drainage that may be secured in disease of the mucous membrane, or it may be of the submucous tissues. However, I would like to place a case on record in which a different part was affected. I may state in the beginning that there was no syphilis in the case. A man about 55 years of age had been treated in various places and a number of polypi had been removed during a period of six or eight months. Every two weeks or so a new lot had been removed. I followed the same procedure at once and removed a mass of the polypi. The second time he came a peculiar mobility of the middle turbinate struck me. There was a polypus on the septal and on the turbinate side that induced me to amputate the whole of the turbinate. With a long snare I got nicely around it and the result was I found the whole turbinate bone was separated in very small chips, perhaps the size of a split pea, and between there were sharp demarcation lines. It was clearly

a case of osteitis of the middle turbinate and the polypi that were secondary of course could never be expected to be removed entirely without the removal of the turbinate.

DR. BAKER, in closing—In regard to the matter of packing after an operation I think it makes very little difference what is used for the packing. You may, if you like, use punk with success and it is advantageous in that it does not insinuate itself between the spiculæ of bone and the adjacent tissue, and you are less likely to have hemorrhage when it is removed. As to putting the patients to bed, those of us who are fortunately placed may profit by that plan of treatment. But often we can not do that. For instance, in my practice I must often operate upon patients and have them take a railway trip immediately after the operation and go under the care of some other physician. I had one patient who previous to the operation had retained pus in the cells and every time a polypus had been removed there had been a free discharge of pus. The adjacent cells were curetted and he was sent home, but he reached home in an almost unconscious condition. His physician did not recognize the fact that the nose had been packed until some hours after the patient arrived at home, and it was left in altogether about eight hours; there was a cerebral infection and the patient lost his life. I feel I am in a way responsible for his death because I packed the case and let the patient go home. We should I think keep our patients under very close observation. In regard to the adrenalin producing subsequent hemorrhage, I have used the extract for five or six years, in fact ever since it first appeared on the market, and I do not see that I get any more secondary hemorrhages than before I used the adrenalin. It is a great benefit to be able to see every step of the work, as you may when you use the suprarenal extract or the adrenalin.

ACUTE EDEMA OF THE NASAL SEPTUM.*

J. L. GOODALE, M.D.
BOSTON, MASS.

Acute edematous inflammations of the soft structures of the mouth and throat are comparatively common, especially in the tongue and uvula, but appear to be extremely rare in the nose. Thus, while vascular dilatation of the mucous membrane and the erectile tissue are the usual accompaniments of acute rhinitis, I have not been able to find, in an examination of the literature, any account of acute intranasal inflammations characterized by edema. Two instances, however, of this condition have come under my observation. In one of them it was possible to excise the whole edematous area for microscopic examination.

CASE 1.—The patient, a young married woman, 25 years of age, who had always been in good health, came, Aug. 15, 1898, for a blocking of the left nasal passage, with fulness and impairment of hearing in the left ear, of ten days' duration. There had been a slight sore throat at the beginning, which had passed off in a few days. There were no constitutional symptoms, nor elevation of temperature. There was no abormal nasal discharge anteriorly, but she complained of a moderate amount of nasopharyngeal dropping. Examination showed, in the left posterior naris a globular mass about 1.5 cm. in diameter, bright red, with smooth surface, completely filling the choana. It was not possible to see its point of attachment. The right choana appeared normal in outline and color, except for a slight swelling of the erectile tissue of the septum over a limited area of about 1 cm. on the right side, immediately behind its posterior end. This swelling was pale bluish-pink, but was not greater than the tumefaction in this region so often seen in chronic rhinitis. The pharynx, larynx, and anterior nares showed nothing abnormal. The left ear showed a moderate acute serous inflammation.

A simple oily spray was given for local use, and calomel administered in sufficient quantity to cause free catharsis. Four days later the left postnasal mass had shrunken to about one-half its former size, and appeared as an irregularly lobulated rounded mass, pale-pink in color, growing with a broad base from the left side of the septum, immediately in front of its posterior extremity, occupying in fact the corresponding site of the slight swelling of the right side above mentioned. The turbinates of the left side could now be seen posteriorly, and showed nothing abnormal. The serous catarrh of the left ear had diminished, and the hearing on that side had improved. On Aug. 25, that is, in three weeks, approximately, from the beginning of the symptoms, the mass had entirely disappeared, and both sides of the septum, seen in posterior view, were alike. The left ear appeared normal.

The patient then remained well until December, 1898. On Jan. 3, 1899, she consulted me, saying that for the past ten days she had been suffering from a severe cold associated with some sore throat and impairment of hearing on the left side. There were moderate constitutional symptoms of malaise and loss of strength, but little, if any, elevation of temperature. Examination showed a reddening of the nasopharyngeal mucous membrane without swelling. The septal mucous membrane was slightly reddened, but otherwise normal. The left ear showed a slight serous inflammation. Under a mild spray the symptoms and evidences of inflammation disappeared. On January 16 a light application of chromic acid was made to the left lower turbinate anteriorly, as this showed a certain amount of relaxation. Three days later the patient returned, saying that on the day following the cauterization she began to experience a filling up behind the palate, with nasal occlusion, at first left-sided, but now becoming bilateral. The left ear simultaneously became extremely deaf. There was at this time no fever, and constitutional symptoms were absent. Examination showed, lying on the upper surface of the soft palate, an irregularly globular mass, somewhat flattened above and below, bluish-pink, translucent, smooth, with numerous pinhead-sized whitish spots studding the surface. In size it was about 3 by 4 cm. in diameter. It filled completely the nasopharynx, so that neither vault nor septum was visible. A snare with a recurved canula was introduced through the mouth, and the wire slipped, with some difficulty, around the mass, when it was completely removed. The hemorrhage was slight. After removal, the mass was seen to be flattened, oval in shape, firm and elastic, resembling in appearance a mucous polyp. Post-rhinoscopic examination now showed its point of attachment to the area on the left side of the septum, which had been the site of the former swelling. This appeared now as a smooth area about 1 cm. in diameter, marked by a thin blood clot. Healing of this surface progressed rapidly, and on January 31, two weeks after the operation, the mucous membrane was smooth and closely adherent to the septum, differing in this respect from the corresponding area of the right side, which showed the circumscribed area of tumefaction previously referred to as so often seen in chronic rhinitis. The left ear was normal.

The patient remained well until April of the same year, when she came saying that she had a cold in the head for one week, but that there had been little, if any, blocking of the nose. Examination showed a somewhat

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reddened nasopharynx. The right posterior septal tumefaction was slightly larger than on last examination, and was of a pale, bluish, translucent color. The corresponding place on the left—the former site of the edematous tumor—was smooth and flat. There was no impairment of hearing, and the ears appeared normal. The acute symptoms disappeared in a few days.

Pathological Anatomy.—The excised mass was divided into several smaller portions, of which some were fixed in alcohol, and others in Zenker's fluid. Sections showed the following histologic appearances.

The mucous membrane consisted of from three to six layers of columnar epithelial cells, without evidence of ciliæ. Here and there the mucous membrane was absent or represented by tattered and loosely hanging columns of cells, while in several places vertical cracks and fissures through the mucous membrane were apparent. The individual epithelial cells seemed essentially normal. In the intercellular spaces were seen a few polynuclear neutrophilic leucocytes.

The body of the mass below the mucous membrane was composed of a delicate network of connective tissue fibers, with wide interspaces. In many places the fibers seemed forcibly ruptured from their connections, leaving ragged and frayed ends, separated by a varying distance. Scattered about in this area were a number of mucous glands of essentially normal size and appearance, surrounded by a moderate number of lymphoid cells with a few plasma cells and *Mastzellen*, in a manner similar to that which occurs in the ordinary hypertrophied mucous membrane. There were numerous thin-walled channels lined with endothelium containing red blood-corpuscles and a few polynuclear neutrophiles and lymphocytes.

These appearances denote, without doubt, a sudden escape of fluid into a circumscribed area, with the result of forcibly stretching the enveloping mucous membrane and the underlying connective tissue spaces.

The subsequent history of this patient is interesting. Three months later she came for examination, complaining of symptoms of cold in the head, of one week's duration. The nasopharynx was somewhat reddened. The mucous membrane of the septum, posteriorly, as seen in post-rhinoscopic examination, was moderately swollen, pale and translucent. The mucous membrane of the corresponding site of the left side of the septum, where the edematous mass had previously been removed, was found to be smooth and flat. The symptoms disappeared after a few days' use of a bland oily spray. The patient then remained away until twelve months later, when she returned, stating that there was an obstruction in the left nasal passage which flapped to and fro with respiration. Examination showed two large pedunculated, polyp-like growths, dependent from the infundibulum. These were removed. A few days later another smaller mass appeared in the same situation. At this time there was no evidence of acute inflammation. During the next few days no change in the mass was apparent. No bare bone could be discovered with the probe, but the question of syphilis presented itself strongly, and on inquiry it was learned that about ten months previously a general rash had appeared over the body, similar, the patient said, to measles, accompanied by a sore throat of several weeks' duration, and a general glandular enlargement, beginning in the groins. This disappeared in two or three months. Acting upon this supposition, I gave the patient mercury and iodid of potassium. Within a week the polyp began to diminish in size, and ten days later had entirely disappeared. The patient has since then been taking iodid of potassium, with the result of being in better general health than at any time during the preceding six months. It is not possible to make a positive diagnosis of syphilitic ethmoiditis, but it seems reasonable to suppose that such was the condition.

CASE 2.—This patient was a healthy woman, 26 years of age, who had been suffering from intermittent blocking of the nose for several years, which had, however, not been productive of much discomfort. The present trouble consisted of symptoms of a severe cold in the head, of one week's duration, with complete blocking of the right nasal passage. There was no fever, and but slight constitutional disturbance. Examination showed the mucous membrane of the nasal passages to be moderately reddened and diffusely swollen, the septum deviated slightly to the left. In the right nasal passage, about one centimeter behind the junction of the triangular cartilage with the perpendicular plate of the ethmoid, and about a centimeter above the floor of the nose, there was a reddish, soft mass, attached to the septum, moving back and forth with forced respiration over a distance of 3 cms., and completely blocking the passage. On slight contact with the probe it bled freely. There was abundant muco-purulent discharge from both nostrils. A bland oily spray was given locally, with blennostasin internally. On the next day this mass was seen to be much smaller, and its outlines were better made out. It now appeared as a semi-translucent, elastic, pink, pedunculated, pyriform mass, looking much like an ordinary nasal polyp. This rapidly continued to shrink in size, and in two weeks from the first examination had disappeared. Its site of attachment was now seen to be a bony ridge of the ethmoid plate, over which the mucous membrane appeared slightly thicker than usual. The diagnosis was made of a sharply circumscribed edematous infiltration of the mucous membrane and submucous tissue in this portion of the septum.

The resemblance of these two cases to the edematous inflammations of the soft palate is striking. In both structures a sudden inflammation of the mucous membrane and underlying tissues makes its appearance, and is rapidly followed by the escape of serum into the underlying connective tissue. There is moderate constitutional disturbance, and evidence of the existence of an infectious process. In the two cases just described, it was interesting to note that while the inflammation of the mucous membrane was fairly extensive within the nose and the nasopharynx, the edema was restricted to a limited area of the septum. It was manifested clinically by the development of a large translucent, pedunculated mass, having a strong resemblance to a mucous polyp. The duration of the process was from two to three weeks. The histologic examination in one of the cases confirmed the clinical diagnosis of acute inflammatory edema.

CRYOSCOPY AS A MEDICOLEGAL TEST OF DROWNING.—When a person is drowning, more or less water penetrates into the lungs and thence into the pulmonary veins and the left heart. The blood becomes diluted and the determination of the freezing-point in the right and left heart shows this dilution. In some experiments reported by Carrara, in dogs killed by drowning, the freezing-point of the blood of the right heart averaged .42 and in the left, .29. In salt water the difference is still greater. In a soldier who had been drowned in the sea the left heart showed 1.18 and the right, 1.04. The freezing-point is identical in both halves of the heart in cadavers submerged after death. In all cases the difference becomes equalized in the course of a few hours.

ATRESIA HYMENALIS, ITS ETIOLOGY AND TREATMENT.

WITH REPORT OF A CASE OF ATRESIA HYMENALIS, HEMATOCOLPOS, HEMATOMETRA AND HEMATOSALPINX DUPLEX, EACH OF THE SIZE OF A MAN'S FIST, IN A GIRL OF FOURTEEN YEARS. PRESENTATION OF SPECIMENS.*

O. THIENHAUS, M.D.

MILWAUKEE, WIS.

The formerly so-called congenital atresia of the female sexual apparatus has been in later days a subject of greatest interest and discussion, and the question whether or not every atresia ought to be classified as a congenital *vitium primæ formationis,* or as acquired by some inflammatory process during early childhood, has not yet been settled as to universal agreement. The pendulum of scientific opinion has nowadays swung rapidly to the side of those authors who believe that every atresia in a *simple* genital organ is caused by an inflammatory process and may be produced: 1, through infectious diseases during childhood (variola, diphtheria, erysipelas, scarlatina, measles, dysentery, pneumonia connected with vaginitis phlegmonosa dissecans, impetigo contagiosa, etc.); 2, vulvovaginitis gonorrheica of the new born, or vulvovaginitis of other bacteriological or traumatic origin during childhood, or colpitis senilis; 3, trauma during life by external force, scalding, burning, operation, corpora aliena (pessaries), cauterization with chlorid of zinc, thermocautery, curettement after abortion or birth,† etc.; 4, puerperal infectious diseases; yet it must not be forgotten, as will be shown at the close of my topic, that in some cases the most accurate and strict anamnesis is not able to reveal any such diseases as above mentioned, as supposed causes of gynatresias, and that, on the other hand, there is no explanatory reason for excluding entirely congenital malformations during the embryologic development of the fetus, though we can oftentimes not furnish a reasonable explanation. Landau, for instance, cited lately two very interesting cases of the latter kind in the Berlin Medical Society,[1] where there was in one case total occlusion of the uterus by a mesonephric fibroid of the cervical portion, *id est,* a fibroid originating by hyperplasia of the Wolffian body, which case is still more interesting for the reason that it is the first one cited in literature of a mesonephric myoma originating from the cervical part of the Wolffian body.

I do not intend in my introduction to go too deeply into the details of this interesting question, but will show at the end of my paper that, as it is in many other things where we say the truth is lying in the median line, so it is here, that is, both opinions are justified and are substantiated by microscopical examination and clinical observations.

Though the recent literature of atresia hymenalis shows interesting material, yet some features observed in the following case and cited below justify its contribution.

On February 16 I was called in consultation by Dr. Barckmann to a patient who gave the following history and status:

The anamnesis revealed that H. M., 14 years of age, had had so-called black measles (hemorrhagic) at the age of 4 years, for which reason she was confined to her bed for a fortnight. She was always well until two years ago when she was stricken at intervals with sudden attacks of pain in the abdomen which were attributed by different physicians to catarrhal enteritis, colic, etc., and treated accordingly. No minute examination was ever made. Six days before consultation she experienced an attack of somewhat similar pain, at first not so severe as to attract medical interference. Two days later, however, while playing the piano, the pain increased steadily and did not cease day or night. She was confined to her bed with colicky pain, chiefly in the left iliac region, and was compelled to urinate every five minutes. When I saw the patient in consultation with Dr. Barckmann, who at first appearance had made the diagnosis atresia hymenalis and hematometra, the following status was presented:

Very well developed and healthy looking girl; pulse 94, temperature normal; upon visual examination the mons veneris was found covered with hair; the abdominal region from the symphysis ossis pubis up to one finger's breadth beneath the umbilicus was protruding with an abdominal tumor which in the umbilical region showed the upper circumference of an enlarged uterus bifundalis. From the umbilical region the line of circumference descended in a convex line on both sides to the anterior superior spine. By manual palpation the umbilical part of the tumor felt like a hard mass, the part over the symphysis and Poupart's ligaments showed fluctuation. The part of the tumor over both Poupart's ligaments showed the appearance of two sausage-shaped tumors, broadly attached to the tumor in the median line. Between the labia majora a bluish looking membrane was bulging out of the vagina like a child's head in the vaginal outlet, together with a well-marked protrusion of the posterior vaginal wall. Diagnosis: atresia hymenalis, hematocolpos, hematometra and hematosalpinx duplex.

As the state of affairs was such that rupture of the sac might be expected at any time, the patient was immediately removed to the hospital and operated upon the next morning. The pulse on the evening previous to the operation rose to 120, temperature 100, which showed that some alarming disturbance was impending.

At the operation—narcosis by Dr. Holty, with assistant Dr. Barckmann—after opening the abdomen, the omentum, in a state of imbibition by a brownish-looking bloody fluid, was found in front of the tumor masses and attached to them and the parietal peritoneum. After freeing it by gentle blunt dissection, the situation could be determined. The tumor in the median line was the distended uppor portion of the vagina, and the unfolded cervical part of the uterus, upon which was lying the fundus of the uterus like a small cap on a big head. Dark-brown, bloody fluid, oozing, as was shown later on, from the left tubal tumor, was found in the peritoneal cavity. On both sides of the median tumor two retort-shaped, dark-brown looking, tubal tumors, each of them of the size of a man's fist, were encountered imbedded in delicate adhesions and attached to the bowels and the parietal serosa. On the left side a hematovarium of the size of a hen's egg was adherent to the tubal tumor. By gently breaking up the adhesions both tumors with the hematovarium on the left side could be removed without rupturing. The abdomen was wiped out and closed, and then, by a small opening through the membrane into the introitus vagina, two and one-third quarts of bloody fluid exuded slowly from the hematocolpos and the hematometra. Ten days after the first operation a plastic operation, to keep the vagina open, was performed. Uneventful recovery. Five weeks after the operation the menstrual flow reappeared.

The first question which arises in our case is: Does this atresia hymenalis belong to the congenital or

* Read in the Section on Obstetrics and Diseases of Women, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

† Menge demonstrated lately a case (Centralblatt f. Gyn., 1901, p. 463) in which atresia of the cervix uteri in three places was caused by curettement.

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acquired class of gynetresias? I have already touched upon this question in my introduction, and pointed out that many authors, following the opinion of Nagel, Veit,[2] and Meyer,[3] deny absolutely the possibility of congenital atresia in cases of a simple genital apparatus, that is, without any other congenital malformation, such as vagina duplex, uterus bicornus, uterus septus, etc. This opinion, however, has been somewhat disproved by the excellent microscopical studies of C. Van Tussenbrock, in a case of atresia hymenalis[4] (compare C. Van Tussenbrock, "Histologische Differential-Diagnose zur Angeborenen und Erworbenen Hymenal-Atresie").

As we know, the normal hymen consists only of vulvar epithelium, connective tissue, and vaginal epithelium without any muscular layer.

Catherine Van Tussenbrock, well known to us by her classical studies on ovarian pregnancy, found in her case a muscular layer in the hymen, together with blood vessels, and no sign of previous inflammation, and concludes that in this case there has never been a hymen, but that the membrane which caused the occulsion of the vagina consisted of the inferior part of the atretic Müller's ducts with their surrounding secondary muscle layer and the bottom of the non-perforated sinus urogenitalis, which had become vulva. Treub,[5] who was always of the opinion that Nagel's theory was not in every case in harmony with clinical observations, thinks that Van Tussenbrock's discovery is a perfect anatomical proof of the theory of congenital atresia hymenalis. Henkel,[6] however, demonstrating the microscopical preparations of the hymen in a case of atresia hymenalis in which he found muscle fibers, is of the opinion that after the occulsion of the vagina a protrusion of the posterior part of the vagina takes place with elevation of its muscle layers, and that, therefore, this condition does not speak against an inflammatory origin of atresia. This protrusion of the posterior part of the vaginal wall was so well marked in our case that one could demonstrate it clinically, and I must say that I am fully convinced of Henkel's opinion when muscle layers are found. I regret very much, however, that external circumstances did not allow a microscopical examination in the case of my patient.

In our case the anamnesis could not reveal any catarrhal inflammation of the genital tract, either during childhood or during the state of hemorrhagic measles, and it would be dangerous and premature to come to the conclusion that the hemorrhagic measles must have had some relation to the alteration in the genital sphere of the patient, though it may perhaps be possible, and the inflammation, as it happens oftentimes, did not cause demonstrative symptoms. The more one sees in surgical and general practice, the more one comes to the conclusion: Beware of making a statement *post hoc, ergo propter hoc*, unless you have absolute proof and are perfectly convinced of the proof of your statement; and many statistics are, in this respect, like a *puella publica*, as Freund once expressed himself. Consider the question from this standpoint: How many have infectious diseases during childhood—measles, scarlatina, diphtheria, etc.—and in how many of these does atresia develop later on? In cases where we find diphtheric membranes on the vulva without or with diphtheria of the tonsils (Silberstein[7] lately cites a case of this kind cured by diphtheric serum), the fact that this diphtheric process may result later in atresia is well-nigh beyond dispute. Furthermore, as it is beyond question that many children contract a gonorrheic conjunctivitis during the period of birth, so, many may contract gonorrheic vulvar vaginitis in the same manner; and this is the more true because the gaping of the vulva, the protruding of the small labia and the tenderness of the epithelium favor infection of these organs, especially during birth. The reason that we find comparatively few cases of gonorrheic vulvar vaginitis in the new born in literature is, that they are oftentimes overlooked by parents and physicians, and but little attention is paid to a slight redness and leucorrhea from the vulva. In other cases of vulvo-vaginitis during childhood and infectious diseases, the symptoms may be of such trifling character that they are entirely neglected and yet the inflammation may cause atresias. Neugebauer, to whom we owe many statistics of interesting cases in gynecologic literature, has, in his monograph, "Zur Lehre der Verwachsungen and Verengerungen der Scheide, etc.," Berlin, Karger's Verlag, 1895, collected 1000 cases of stenosis and atresia, of which he thinks 479 are certainly acquired, and under these, as Piering[8] cites thirty-two times—seventeen times in children—a colpitis was the underlying cause.

The question of origin of the atresia hymenalis in our case can be answered, if we consider the origin of the accompanying hematosalpinges. Veit,[9] in his paper "Ueber Haematosalpinx bei Gynatresien," makes the appearance of a hematosalpinx a phenomenon of the greatest differential diagnostic value concerning the origin of an atresia, and says that all cases, in which we find hematosalpinx connected with hematocolpos or hematometra, are undoubtedly of inflammatory origin, even if we find other *vitia primæ formationis*, such as vagina duplex, uterus bicornis, etc. Wilbert, in his dissertation, "Beitraege zur Entstehung der Hymenal-Atresie" (Inaugural Dissertation, Wuerzburg, 1898), cites a case in which the hematometra extended to the navel without a hematosalpinx. The retained menstrual blood was found germless and one was not enabled, by injecting it under the skin and the peritoneal cavity of rabbits, to produce inflammatory processes, but it was absorbed without any action. All others in which we find hematosalpinx he thinks are of inflammatory origin. Many clinical observations have proved the fact that the blood in hematosalpinx is highly infectious. More than 50 per cent. of cases in which the coexisting hematosalpinx was overlooked and the patients, therefore, simply operated upon by way of the vagina, resulted in death from peritoneal sepsis, caused by the ignorance of the performer. Fuld[10] cites that out of 56 cases operated in this manner 39 died. The tender adhesions of the tubes were broken by the sudden disappearance of the hematometra and hematocolpos, the tubes ruptured, and the infectious contents caused septic peritonitis. This danger of rupture of hematosalpinx during sudden disappearance of the hematocolpos has been pointed out sufficiently by many authors, who emphasized its importance (I will here only mention the names of Freund,[11] Rose,[12] Webster[13]). In our case the left tube was in a state of impending rupture, but, fortunately, only a little fluid had escaped into the peritoneal cavity, causing the rise of temperature and of the pulse on the evening previous to the operation. Had the operation been delayed twenty-four hours, or had rough handling by palpation caused a complete rupture of the tube, unavoidable death would have been the result. The

phenomenon of hematosalpinx, therefore, in our case compels us to classify the atresia as one caused by an inflammatory process.

It is not my intention here to go further into the discussion of the question as to the origin of the blood in the tubes, whether caused by refluxion from the uterus, catarrhal inflammation, or tubal menstruation, which process is absolutely denied by Saenger,[14] or even from the hematorium. Neither will I go into the details of a differential diagnosis between extrauterine pregnancy and hematosalpinx, which, as Veit has shown, can be differentiated by a regard for the closure of the abdominal end of the tubes in the latter. It is important to notice in our case that on the left side there was a complete atresia of the uterine end of the tube. This excludes an origin of the blood from the uterus on this side.

Concerning the treatment of hematosalpinx and atresia hymenalis, there can be but one opinion, which is, perform laparotomy first and extirpate the hematosalpinx, thereby removing the possible cause of septic peritonitis. Then open the hematocolpos and hematometra by the vaginal route.

At the close of my paper, I should like to emphasize once more the following: 1. The origin of gynetresias in a simple genital tract may be twofold: *a*, caused by an inflammatory process, which is true in the majority of cases; *b*, caused by congenital malformation, as shown by Van Tussenbrock, in a case of atresia hymenalis, which, however, can find, as above cited, another explanation, and by Landau in a case of atresia cervicalis produced by a mesonephric fibroid. 2. The practitioner must pay attention to every case of birth where he suspects a gonorrheic infection of the maternal genital tract, not only to the eyes of the new born, but also in the same manner to the vulva and vagina; and, if he finds an infection of these parts he should treat them carefully with .5 per cent. of protargol solution three times a day, as advised by Siebert,[15] or by other methods. 3. In all infectious diseases during childhood possible inflammation of the genital apparatus must be taken into consideration. 4. The physician must enforce a thorough examination in all cases of molimina menstrulia with absence of menstrual flow. 5. If he finds an atresia somewhere in the genital tract as the underlying cause, he must not cut blindly into the hematocolpos or hematometra, but must direct his method of treatment after the question: Is there hematosalpinx present or not? 6. If the latter is diagnosed, laparotomy must be performed first and then the hematometra or hematocolpos opened by the vaginal route.

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DISCUSSION.

DR. A. MCDERMID, Chicago—This specimen coming from so young a girl, is remarkable. It was a wise precaution that the Doctor gave, not to open the vagina and trust to drainage in these cases. I recollect a case that I saw more than twenty years ago, where the family physician had made a crucial incision and the girl died from general peritonitis.

DR. A. GOLDSPOHN, Chicago—I did not hear all of the paper, but only the precaution about opening from below in hematosalpinx. That is correct, but there are many cases, as I had one recently, in a girl of 17, of occlusion from a thick, dense hymen. The blood accumulates in the vagina and it is a long time before the cervix and body of the uterus becomes expanded and before the tubes are involved, so that in such instances we should certainly open from below, as I did in my case with good results. The thing that is especially important for the general practitioner to understand is the danger of bimanual examination. In this particular class we have to caution against such compressing of the parts, notwithstanding the extreme value of bimanual examinations usually. A man accustomed to pelvic examinations and surgery is usually able, by careful bimanual and rectal palpation, to diagnose the cases of vaginal retention, which can be emptied from below from those in which the tubes are involved and operation from above is needed.

HOW SHALL WE DEAL WITH UTERINE MYOMATA?*

E. E. MONTGOMERY, M.D.
PHILADELPHIA.

Much confidence in the efficiency of different remedies has been expressed at various times.

Those, which in recent years have attained to most pronounced favor, have been the animal extracts, notably those obtained from the mammary and thyroid glands. As in electricity, doubtless much of the benefit imputed to these drugs is due to suggestion. The only extract which has seemed to me capable of producing any beneficial effect is that derived from the thyroid gland. This agent appears to exert a special influence upon the epithelium of the uterine mucous membrane, which promotes the arrest of hemorrhage and decreases pain. These effects are found in the carcinomatous as well as the myomatous uterus. Not every patient, however, is able to take the drug in sufficient doses to exert a beneficial influence upon the growth.

The efficacy of electricity, I will not discuss further than to say that I should not advise its employment in uterine myomata demanding treatment, when the condition of the patient's health would permit surgical procedures. The first aim of our surgical treatment must be to restore the afflicted individual to health with the least possible danger to life. The second to preserve, where possible, the normal functions of the pelvic organs. In many patients, the former axiom is only maintained by the most radical operation. Where the uterus is spread out by diffuse interstitial myomata, the slight hope of retaining a functionating uterus does not justify the necessary exposure to greatly increased danger. In such cases, the patient is exposed to three dangers: 1, hemorrhage into, or through, the lacerated organ; 2, loss of vitality and sloughing of the bruised and injured tissues; 3, inflammation and consequent adhesions.

When the operator is intent upon preserving the function of the pelvic organs, he will find himself able to avoid the sacrifice of many uteri which he would previously have been impelled to remove. The age and condition of the patient will always be an important factor. Married women with numerous children, or those near the climacteric much less justify any additional risk. On the contrary, young and unmarried

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women sould have their organs preserved whenever possible.

The method of enucleation of myomata through an abdominal incision, of late years, has been frequently described, and is so well known that I will do no more than to emphasize some features of the procedure. The uterine incision should be vertical rather than transverse, and should be so made as not to injure the interstitial portions of the Fallopian tubes, or the large vessels supplying the uterus. The tumor surface should be exposed by a free incision, the growth seized by a double tenaculum and enucleated from its bed by a blunt dissector. Where a number of growths exist, the incision should be so placed as to permit the removal through it of as many growths as possible. After all growths have been removed, the ragged tissues should be excised and the wound carefully closed with continuous catgut sutures, so placed as to control bleeding vessels. A superficial row of sutures should be introduced so as to invest a good peritoneal surface to insure early union. Where the uterus has been extensively wounded a gauze drain should be inserted through the abdominal wall to prevent hemorrhage; for the uterine tissue is so elastic that bleeding may recur after closure of the wound.

It is generally regarded necessary to sacrifice the uterus when it is occupied by multiple myomata, but the number of growths is not of so much importance as are their size and situation. One growth may have a more marked destructive influence upon the uterus than a number of smaller growths. I enucleated twenty-five growths from a uterus which seemed very much riddled after their removal, but the patient had an uneventful convalescence and subsequently menstruated regularly.

I will not enter upon a discussion of the removal of submucous tumors through the vagina, as it is generally recognized that this avenue should be utilized whenever the growths are readily acessible through it. Where it is necessary to sacrifice the uterus the entire removal of the organ is the simplest and most expeditious procedure. After the abdominal incision the tumor and uterus are thrown over the symphysis and an incision made into the posterior vaginal fornix upon a bougie or a pair of forceps previously introduced. This part of the procedure was introduced by Eastman, who devised a grooved staff upon which the vagina could be opened. Through the vaginal incision the cervix is seized and drawn forcibly upward, while the vaginal wall is separated from it by scissors. Traction upon the cervix drags it away from the bladder, separation from which can be completed by pressure with the fingers. Frequently the uterine arteries are seen and seized before they bleed. Often they do not bleed as they are pushed back without being torn, while the small branches retract without much, if any, hemorrhage.

After separation of the bladder, the uterus remains attached by the broad ligaments. These can be temporarily secured with clamp forceps external to the appendages and the uterus and growths removed. The broad ligaments are now crushed with the angiotribe and tied in the groove thus formed with chromicized catgut. The uterine arteries are ligated with the same material. The operation as described is essentially that introduced and practiced by Doyen. Aside from its increased expedition, it affords greater security to bladder and uterus when the uterus is drawn away from these structures. I have frequently seen both ureters exposed in the wound. After securing the vessels, the vagina may be fastened upon each side to the stump of the broad ligament, which will prevent the subsequent relaxation of the vaginal canal. The peritoneal flaps are closed over the interior portion of the pelvic wound, completely excluding it from the peritoneal cavity.

In conclusion, from our knowledge of the progress of myomata, we are justified in answering the question of the title of this paper as follows:

1. Small uterine myomata, which do not give rise to symptoms are subperitoneal or interstitial, and may be permitted to go untreated, but the patient should be kept under observation and any increase in size should indicate operation, as continuous growth may result in destruction of the uterus.

2. Small growths which cause hemorrhage are submucous or interstitial, and should be removed through the vagina. They can be made accessible by tents, or by incision through either the anterior or posterior lip.

3. Multiple growths, or small growths, non-accessible by the vagina, which cause symptoms should be removed by abdominal incision. The uterus should be preserved whenever practicable.

4. When the growths are large, or render extirpation of the uterus necessary, the entire removal of the organ, as described in the text, is the simplest and most expeditious procedure.

DISCUSSION.

DR. JOSEPH EASTMAN, Indianapolis—When I recall the time, eighteen years ago, when I was an assistant in the work of Professor Parvin, I recollect his thorough efforts, in making a differential diagnosis between fibroids and ovarian tumors, leaving the fibroids alone and removing the ovarian cysts. I remember that a number of lives were allowed to pass away because they had fibroids and nothing could be done for them. This was before the perfection of our modern methods of removing fibroids. Dr. J. B. Murphy said to me, "Doctor, we no longer find those horrible fibroids which we found fifteen years ago." That is true. The evolution in the removal of fibroids has been most remarkable and gratifying. The Doctor speaks first of the menopause having something to do with whether or not we shall disturb a fibroid. I am of the opinion that a larger percentage of women suffer from some form of degenerative change in a fibroid tumor during the menopause than where there is any reparative or atrophic change which restores the woman's health. I regard the menopause as a dangerous signal, and would hesitate more in allowing a woman with a fibroid to pass through the menopause than any period prior to or after that time.

In regard to myomectomy, I recently had a case where I undertook to remove a large subserous mass and found it in an advanced stage of decomposition, and in consequence I infected the wound and the patient. Before we attempt to remove such a tumor by enucleation, it would be well to determine whether it has already begun to undergo degenerative changes. There are still a few unusual cases of fibroids where we can not adopt any particular method; the morphology of the tumor must to a certain extent govern the method of removal. Although I have had considerable experience in the use of different methods for the removal of fibroids, I have as yet never come to the point where I could lay aside the old rule. It is only the few, and not the many, who are capable of doing aseptic surgery. Dr. Montgomery's paper covers the field very thoroughly and leaves little to discuss.

DR. SETH C. GORDON, Portland, Me.—I am known as a radical on fibroids. When a woman, advanced in life, comes to me with a fibroid or with symptoms which I find are due to a fibroid of the uterus, I believe the only safe, judicious, conservative thing to do is a hysterectomy. No man can say, when he removes a comparatively large fibroid, that there are no more fibroids present which he can not discover. Comparatively few women with fibroids conceive; quite a good many abort

before the period of gestation is finished. If we remove a uterus containing fibroids we have certainly conserved that woman's health. The mortality in hysterectomy is almost nil.

Conservatism, in my opinion, means the conservation of the woman's health. She comes to us not to be relieved of some temporary troubles, but to be cured. I have been in the harness a good many years, and I have done much of this work, and the cases where I have the most trouble are those that have been conserved by these gentlemen who call themselves conservatives. They usually let the woman go on; she is not suffering very badly, not losing much blood; she can bear the pain, and all that sort of thing. I do not believe in that kind of conservatism.

Two years ago I read a paper before the American Gynecological Society, entitled "Conservative Gynecology." I reviewed the history of myomectomy, and no candid man who reviews the cases reported in that paper, can say that conservatism removes myomatous tumors, especially in women beyond the child-bearing period, or who have passed the menopause, or women who could not conceive. You may say that the tumor is not doing much harm. The tendency of fibroids is to grow, to produce further symptoms, and the time when you can do the best operation with the least danger to your patient, with the lowest mortality, is when the tumor is small, when there are no complications, no degeneration, pus tubes, ovarian adhesions and complications arising from peritonitis. When women are suffering, true conservatism is to do a hysterectomy. I shall believe that as long as I practice surgery. We have been in the era of electricity, ergot, and all that kind of treatment, altogether too long. We have seen too many women die; too many go on to the point where an operation was necessarily attended with a large mortality. Doing a myomectomy under those conditions, with almost a certainty of having to open the abdomen again, is not true conservatism. The woman is the one to be considered in this matter; and when she understands the case fully, I believe the majority of them will not want to take the chance of a second operation. I am not terrified in the least by being called a radical; I rather glory in radicalism when such conditions confront us.

DR. WILLIAM H. WATHER, Louisville, Ky.—I do not agree with Dr. Gordon's statement that every fibroid tumor should be removed. They should be removed when they cause inconvenience to the patient, such as would be greater than the danger of an operation. I do not believe in the operation of removal of the ovaries, or any operation, except the radical operation. I have found it to be best to remove the cervix. We know that cancer has developed in a number of cases after leaving the cervix. The operation of hysterectomy for small myomata should be done per vaginam; the results are better, and the patients convalesce more rapidly. When the tumor is too large, or when the vagina is very small, then remove the tumor by the suprapubic or combined method. There is no capital operation that has more simplicity than the operation of removing a fibroid when there are no complications.

The method I pursue is to apply two long clamps on each side, one close to the pelvic wall and one close to the uterus; cut down quickly between them, and then apply, as a rule, two others; then take the uterus away. I occasionally apply a clamp on the round ligament. I do this in preference to ligating, because you can ligate arteries much better when you have the tumor removed. You can reach them easily and can ligate them separately or *en masse*. The tumor is removed very speedily, sometimes within less than ten minutes, and you can ligate the arteries in half the time required before the tumors were removed. In cases where the tumor is too large to be removed from below and is wedged in the pelvis, so that it can not be elevated more than half an inch, having involved the broad ligament, you must treat each case individually and distinct from every other. In cases where there are no contraindications, I separate the vagina from its attachment to the uterus; dissect off the bladder as far as I can; open Douglas' pouch, and apply clamps to the broad ligaments to control the uterine arteries. Then I cut the uterus from its attachments for an inch and a half; then I clamp the ovarian arteries from above and remove the tumor by such methods as may best suit the case. In some cases, where you can not do otherwise, speedily bisect the uterus and then enucleate from below, beginning on the side that can be most easily enucleated. Clamps must be applied to any large bleeding points. Sometimes we can take these tumors away with but little hemorrhage.

DR. A. PALMER DUDLEY, New York City—The title of this paper is a very broad one, but I look at this matter from a strictly scientific standpoint and not from the standpoint of the possibility that the woman may need a second operation. If this study does not advance it must recede, and if we keep along the line of the belief that the uterus and its appendages must be sacrificed because of the presence of a fibroid tumor, we are at a standstill. We have finished the work and can do no better. We must decide whether to go forward or turn back. Who would think of turning back in art or architecture, or in science, and why should we, as artists in surgery, stop with hysterectomy because a fibroid is giving a woman trouble? I am governed in my work solely by my ability and skill as a surgeon. If I have a case where I can do a myomectomy and return healthy appendages with a repaired uterus, I am bound to do it. When I find that that can not be done with a reasonable amount of certainty, hysterectomy must be resorted to.

Ten years ago the question of chloroform in labor was fought out in this Association. Why can not we now do this work as described by Dr. Montgomery, relieving the woman providing she has healthy appendages that will do the work, and providing we can do it without scarring the uterus to such an extent that it will be a menace in the future. The uterine muscular structure heals like any other tissue, therefore we can safely do a myomectomy, without regard to any operation that must be done in the future.

DR. G. B. MASSEY, Philadelphia—This question has often been the subject for discussion before this Section and it is always an interesting one. Some of us come here to learn, and many of us are frequently confronted with the question what to do when a case of this kind comes to us. I believe that the obscurity that still rests upon it, is due largely to exaggerated statements made in medical bodies. I want to know whether the small fibroids are less dangerous to remove than the larger ones. I am not a surgeon, but I am an observer, and my personal impression is that the size of the growth does not necessarily make the operation more dangerous. Then what happens after a successful removal?

Those who use electricity in the treatment of these cases are also confronted with problems. In the first place we should not promise any results in less than six months. That is a very serious objection, one, however, which has been largely met by the growth of the skill of the physician in using electricity. Much can be said on this subject, but these are only a few questions that have presented themselves to me while listening to this discussion.

DR. MONTGOMERY, closing the discussion—I am gratified with the interest displayed in my paper. Dr. Eastman misunderstood me in regard to operating near the menopause. I attempted to emphasize the fact that in women near the menopause, married women who have had a number of children, it is less necessary to save the uterus than in women of a younger age. I fully agree with him as to the removal of the uterus at this time when it is the seat of fibroids which give rise to marked symptoms. The change which the growths undergo are such as to render it desirable that a radical operation be done. I agree with him also as to the importance of recognizing the condition of the tumor prior to a consideration of enucleation; that the danger to the patient is increased when the tumor has undergone necrotic change.

I can not agree with Dr. Gordon as to the necessity or wisdom of performing a hysterectomy in every case of fibroid tumor. On the contrary, many cases in which hemorrhage is a marked symptom may be treated by the enucleation of the tumor through the vagina and the retention of the uterus. I fully agree with Dr. Dudley that we should endeavor to cure out patients by the restoration of function rather than by the sacrifice of important organs. I do not feel that when a patient has sacrificed her ovaries and uterus, that we can consider her case one of cure. We are simply saving her from a

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serious disease; we are throwing her into a condition less unfortunate and less likely to produce serious disturbances of her health or which produces symptoms of less unpleasant character a marked symptom may be treated by the enucleation of the tumor. Where a uterus can be saved in a woman under 40 years old we should invariably do so. With regard to the operation mentioned by Dr. Wathen, I think if he follows the method suggested by me in first making his incision into the vagina from the abdominal cavity, cutting around the cervix, pulling it away from the bladder and ureters, clamping the broad ligaments and uterine arteries if they bleed, he will never repeat the procedure he has described to us to-day. I can not conceive of any reason why a woman with a small growth of a healthy character should be subjected to so much danger as is the woman with a large fibroid growth. The larger the growth, the more serious is the operation; and the more serious the operation, the greater is the danger.

Clinical Report.

CASE OF FATAL HEMORRHAGE FROM A VARIX OF THE PAMPINIFORM PLEXUS.

R. C. HILL, M.D.
SURGEON TO MONTANA DEACONESS HOSPITAL.
GREAT FALLS, MONT.

J. A., V-para, aged 40, seven months pregnant, was first seen by the writer on June 5, 1901, in consultation with Dr. C. T. Sweeney at the Montana Deaconess Hospital. Her history showed that on May 28 and 29 last she had driven into Great Falls from her ranch fifty miles distant, sleeping the intervening night in her wagon on the road. On the 30th and 31st she had worked very hard re-papering a house occupied by her husband, who worked in the city as a plasterer, while June 1 was spent in purchasing supplies to take back to the ranch, which necessitated nearly the whole day's walking about or standing in stores. About midnight on the latter date she was awakened by a series of griping pains in the lower abdomen, and called Dr. Sweeney, who reports that the pains, while severe, were unattended by any symptoms of shock, her pulse at this time being between 90 and 100, full and strong; the os was slightly dilated. A hypodermic injection of morphia secured relief.

On the morning of June 2 pain was still absent, but the patient complained of an uncomfortable feeling of fulness in the abdomen, and the intestines being considerably distended a mild purgative was ordered, to be followed by an enema later. Pulse at this time was 104, temperature normal. June 3, there was no pain, the os was still slightly dilated; bowels had not moved and were much distended; temperature normal, pulse 116. The patient was transferred to the Montana Deaconess Hospital, where epsom salts was administered and enemata given during the day, but no stool was secured by the morning of June 4, although gas passed; the abdomen was becoming more and more distended and vomiting developed; temperature was slightly elevated (100 F.), pulse 120.

When I first saw her, June 5, the abdomen was greatly distended and tympanitic, particularly over the transverse and descending colon, which was plainly outlined upon the surface; a pregnant uterus reaching to the umbilicus could be felt; the bowels had not moved and she had vomited every few minutes all night, the vomited matter having a stercoraceous odor at times. Her pulse at this time was 135 and very weak, temperature normal, thoracic organs healthy, liver and spleen normal. She complained of severe pain in the abdomen; the features were dark, drawn and anxious; her teeth and lips were covered with sordes, and tongue dry and brown. Vaginal examination showed the os to be rather larger than a twenty-five cent. piece. Examination of recto-uterine space was negative. Immediate preparation was made to open the abdomen, and on going on the table the patient was almost in extremis, pulse 145 and very feeble; ether was the anesthetic employed. As soon as the peritoneal cavity was opened, large quantities of dark fluid blood gushed out. The hand encountered many large clots, both in the pelvis and among the intestines. The fingers were rapidly carried down both sides of the left broad ligament, which was found perfectly intact; then to the right side which was found to be occupied by a clot about the size of a small orange slightly infiltrating the cellular tissue between its blades, and communicating by an opening into which the fingers readily passed with the free fluid blood in the pelvis. Ligatures were rapidly applied to both extremities of the broad ligament well down into the pelvis, when all hemorrhage being controlled, the clots were removed, the peritoneum flushed out with hot saline solution and rapidly closed, the entire operation consuming about twenty minutes. The patient was quickly returned to bed, where rectal and subcutaneous injections of hot saline solution with hypodermics of stimulants failed to revive her, and she died in an hour.

An autopsy made one hour after death failed to show any cause for the symptoms of intestinal obstruction except the presence of the blood in the peritoneal cavity, where it did not act mechanically but produced an intestinal paralysis through the shock inflicted on it by its presence which acted as a foreign body. The broad ligament was so disorganized by the hemorrhage and by the ligatures applied to it that the ruptured vessel could not be identified; both tube and ovary, however, were perfectly normal.

Peculiar interest attaches to this case, for several reasons. The insidious character of the symptoms presented contrasted sharply with those usually attendant upon a ruptured tubal or ovarian gestation sac. Even the initial pain, in its comparative mildness and absolute freedom from shock, was but little suggestive of this accident, even though an advanced intra-uterine pregnancy had not deprived it of such significance. The failure of all attempts to secure a stool, together with the vomiting, tympanitic distention of the abdomen, slowly rising pulse, and normal or slightly elevated temperature, so strongly obtruded the obstructive features of the case that hemorrhage in the rôle of causative agent was not suspected.

The chief interest, however, centers about the pathologic condition revealed by the operation and confirmed by the autopsy. Here was a patient with a severe, even fatal, hemorrhage from the vessels of a broad ligament, in whom the possibility of extra-uterine pregnancy could be absolutely excluded. Not only was an intra-uterine pregnancy of seven months certainly present, as proved by the autopsy, but careful examination of the tube and ovary demonstrated that they were absolutely normal, and the conclusion was reached in the absence of other causes, that in this case the hemorrhage was from a ruptured varix of the pampiniform plexus, although the particular vessel affected could not be identified amid the crushed and tattered remnants of the broad ligament presented at the autopsy. Yet careful miscoscopic examination of the large, tortuous, irregular veins of the uterus and opposite broad ligament after death confirmed the impression obtained at the operation, that in the ordinary state of distention common to these vessels before rupture they were decidedly varicose.

It has been my fortune to see within the last two or three years a case of fatal hematocele occurring in a virgin where, although unconfirmed by autopsy, the inference was strong that the hemorrhage proceeded from a ruptured varicose vessel in the broad ligament; Doleris has described a number of similar cases. This occurrence of two cases of pelvic hemorrhage due to this cause within a comparatively short period in my own practice, together with the very considerable number of cases scattered through the literature, where pelvic hematocele, occurring outside the child-bearing period, could not be satisfactorily explained except upon the hypothesis of rupture of a varicose vein within the broad ligament, leads me to believe that a constant relation exists between uterine vascular disease and pelvic hematocele. I can not agree with reporters who describe cases not dependent upon obstetric traumatisms, and especially ectopic gestation, as the rarest accidents. They are of sufficiently frequent occurrence, I feel assured, to warrant much more careful consideration being accorded to them than they now receive, and to warn against the conclusion too generally accepted that the possibility to exclude ectopic pregnancy excludes also broad ligament hemorrhage.

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THE PATHOGENESIS OF PARESIS.

The pathogenesis of paretic dementia is generally held to be primarily in the nervous system, though certain toxic agencies, notably syphilis, are commonly admitted to have prepared the way. Since its apparent close relations with tabes have been brought to notice, a similar pathologic condition has been considered by many to be alike the basis of both disorders; as held by Mott, for example, paresis starts as a primary degeneration of the cortical association neurons, while in tabes the exogenous sensory spinal neurons are first affected. According to his view, both are essentially the same disease, the difference being in the portions of the nervous system involved. While the question of the primary parenchymatous or interstitial nature of the earliest lesions in paresis is still discussed and while there are not lacking able advocates of the vascular origin of the disease, there is at least the merit of novelty in the theory recently advocated by Dr. Ford Robertson,[1] pathologist to the Scottish Asylums.

According to his view, paretic dementia is a toxemia of gastro-intestinal origin, due to excessive growth of the bacteria which normally inhabit the alimentary tract, notably those of the colon group. The toxins thus generated specially affect the nutrition of the vessels of the central nervous system, and particularly those of the more vascular regions, because of their better blood supply. He admits the probable action of syphilis in preparing the way, but holds that it is essentially that of altering the natural immunity, and that there is some evidence that this is dependent upon commencing exhaustion of the leucoblastic function of the bone marrow. The toxemia is probably in some measure, he says, established for months or even years before the outbreak of the nervous disorder. In some individuals the cerebral cells are first to give way and paresis is the result; in others, the spinal and we then have tabes—the original process and cause are the same in both. Hence, as a deduction from these views, he believes that the treatment of paresis and tabes should be directed primarily to the correction of the morbid conditions in the alimentary tract and that the arrest of the disease by such means is practicable.

In the same issue of the *British Medical Journal*, there also appears a paper of Dr. Lewis C. Bruce, of the Perth District Asylum, evidently written in concert with that of Dr. Ford Robertson, and advocating the same general views. Bruce, however, has experimented with serum-therapy and tested the agglutination reactions of the bacillus coli with paretic serum and believes that he finds not only evidence in support of the gastro-intestinal toxemic nature of the disease, but also valuable therapeutic indications. He has used the serum from patients in the remission of paresis by inoculating with it others in the progressive stages, and he thinks that the results are to some extent significant and promising. As a therapeutic suggestion, his ideas are worth testing in a disorder like paresis, where nothing so far seems to be positively curative, but the theory of the disease here offered will require very ample demonstration before it can even be seriously thought of as a possible pathology.

Robertson admits that there are many unanswerable objections to portions of his theory, and others, not its advocates, will doubtless find arguments against it as a whole. The papers of Bruce and Robertson nevertheless call attention to certain aspects of the disorder and are, in this way, and on account of the exceptional nature of the views expressed, rather notable contributions to its literature.

1. British Medical Journal, June 29.

THE ART OF ENDOWING MEDICAL COLLEGES.

It is a matter for congratulation that philanthropists are turning their attention to medical schools. They are beginning to recognize the fact long since familiar to those conversant with the needs of such institutions that medical education as conducted at the present time is not self-supporting. The necessary equipment of a modern medical school represents an investment of considerable magnitude, whether we consider the wealth of clinical material needed for the practical training of the student—material that should be in the main supplied by the hospitals under the immediate control of the college authorities, or whether we consider the various laboratories for the practical demonstration of the fundamental sciences.

Again, the teaching force is fourfold greater than that needed in the recent past. It follows that the salary lists of these institutions are correspondingly increased. Not only so, but whereas in the past the professors occupying certain scientific chairs in the medical schools were at one and the same time in general medical practice, it is now deemed necessary for them to devote their entire time and attention to the duties of their chairs or departments. In short, there is no other form of professional training either so exacting or so costly as that pertaining to the education of the physician of to-day. Though the precise situation from a monetary view-point is fully appreciated at present by those in control of the affairs of our medical schools, as well as by those in teaching capacities, the popular notion relative to the question is still far astray.

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The claims of medical schools upon private philanthropy have recently called forth laudable and generous responses from Mr. Rockefeller, who endowed the Rockefeller Institute for medical research, and Mr. J. Pierpont Morgan, whose gift of over one million dollars to Harvard University was publicly acknowledged on the occasion of the commencement exercises recently held of the medical department of that well-known university. We may confidently assume that these handsome gifts will prove to be the forerunner of even greater munificence on the part of others. Indeed, donations and endowments in connection with medical colleges will doubtless grow more conspicuous as the urgent needs of higher medical education are more generally appreciated by those possessing great wealth. Since it is practically certain that generosity toward medical colleges is sure to grow, those who are in a position to fully present their claims to the generously disposed need to remember that there is an art in giving. Such efforts, however commendable at first sight, can not accomplish good results unless much study and investigation is given to the question of how and when to apply donations and endowments. There is danger that unless forewarned, rich men may injure the cause of medical education or retard its progress as a result of misdirected generosity. It is also perfectly possible for men of wealth to be induced to furnish the funds that would enable an undeserving institution to swell enormously its matriculation list. Generosity must be tempered by critical judgment and the gratitude of the profession with wise counsel as to the best means of applying pecuniary gifts.

Whilst giving is praiseworthy, the art of giving is not unworthy of the most careful and thoughtful consideration of wealthy philanthropists, as well as those who control the administrative affairs of medical colleges and who are morally bound to develop them to the utmost usefulness.

RECENT ITALIAN INVESTIGATIONS ON MALARIA.

The various phases in the investigation of malaria, which has yielded such remarkable results, have been followed quite closely in the editorial columns of THE JOURNAL.[1] In the third annual report of the Italian Society for the Study of Malaria, Professor Celli[2] briefly reviews the work of the society for the past year. A number of small stations were established for the special study of the disease from an epidemiologic standpoint.

The work of these stations shows that where malaria prevails the anopheles genus of mosquito also occurs, but not vice versa. All stagnating water in marshy regions may be foci for the larvæ of anopheles; mixed salt and fresh waters are exceptions to this rule. The larvæ die in the water used for maceration of flax, whereas rice fields covered with stagnating or running water always harbor the larvæ of the malaria-carrying mosquito. The parasite of the grave tertiary form is the most widely distributed; that of the quartan form is less prevalent; while that of the mild tertian form is more widely distributed in the northern than in the southern part of Italy. By means of the mosquito theory the epidemiology of malaria in Italy has been well established through the efforts of this society.

Among the more important studies in the pathology and therapy of malaria may be mentioned those of Lomonaco and Panichi on the agglutinating powers of malarial blood, through which it is hoped to attain a rapid and sure means of diagnosis of latent malaria. Numerous experiments have been made on sufficiently large scale to demonstrate conclusively that persons working in malarial regions may be fully protected from malaria by mechanical protection against the stings of mosquitoes. This is confirmed by the English physicians Sambon and Low, who lived during the malarial season in a specially constructed house guarded against the entrance of mosquitoes. It may be recalled, too, that Manson produced malaria experimentally in London by means of infected mosquitoes sent there from Rome. Enactments have been secured whereby reliable quinin is kept for sale at a low price in all parts of Italy. Efforts are now being made to render specific treatment with quinin obligatory, in order to prevent death from pernicious malaria. Popular writings on malaria are to be spread among the inhabitants of malarial regions, and the physicians therein provided with scientific publications.

The economic gain for Italy through this united warfare against its terrible malaria can not be estimated, and the work of this society forms a good example for imitation in other lands. The value of euquinin as a prophylactic is well shown by the work by Di Mattei and others, and Mori[3] states that of 42 persons in a malarial region, subjected to prophylactic treatment with euquinin in doses of one-half gram per day, only 5, that is, 11.90 per cent., became infected, while of 47 non-immunized persons 39, that is, 82.97 per cent., fell victims to the infection. Celli regards this substance the best means now at hand for producing artificial immunity against malaria.

THE TEACHING OF CHEMICAL PATHOLOGY.

The increasing and now quite widely recognized importance of chemistry and physics in physiological and pathological processes is leading gradually to a remodeling of the methods of teaching pathology and physiology, with the view to giving the attention demanded by chemistry in its relations to these sciences. Within a year or so a few of our medical institutions have established distinct courses, of different kinds, in pathological chemistry. Professor Taylor, of the University of California, gives the details of the course

1. August 12, 1899; May 26, 1900; June 9, 1900; Feb. 16, 1901.
2. Centralbl. f. Bakt., 1901, xxix, 770-772.
3. Ibid., 786-791.

planned for the medical students of that school.[1] A full and valuable description is given of the equipment of the laboratory organized for this purpose and intended for fifty students. The underlying principle which led to the installment of this course is the necessity for the student to learn that disturbed function is co-equal with altered structure, and hence an effort is made to study morbid physiology and morbid anatomy at the same time. In chemical pathology each student does practical work, as far as possible. Wherever material is insufficient general demonstrations are made.

The general course includes work on the saliva, the gastric fluids, the feces, the urine, transudates and exudates, the bones, various organs, tumors, toxins, antitoxins and ferments. When the class has done a certain amount of work along general lines, subjects for original work are given each student for more detailed study, and an interesting list of topics follows. The field is so large that it is not possible to cover all parts, which is not so essential as that the student should work out largely by himself some of the conditions of disease from both chemical and morphological viewpoints. The course here indicated occupies three afternoon sessions per week throughout the academic year.

We believe that this is an important step in the right direction. Eventually the courses of this kind may be made to include the study of the influence of chemical and physical agents upon living matter as well as the study of the chemical composition of various kinds of dead matter. Perhaps an important question in the minds of some men, especially the deans of medical departments, will be, where is the time for this new course to come from? The curriculum is crowded already and students are being pushed too hard. The solution of this difficulty probably lies in the fact that as the chemical and physical aspects of pathology are emphasized, the morphologic side, so prominent at present, will become less important and require less time for adequate presentation.

THE USE OF SUGAR.

The present tendency of physiologists and authorities on dietetics to encourage the use of sugar as an aliment, has not failed to excite some controversy and adverse opinion. A recent article by Von Bunge is in point.[2] This author, starting from the common observation that children who eat sugar appear anemic and have bad teeth, reasons that as sugar contains neither iron nor lime, its free consumption, by supplanting other aliments containing these essentials, is damaging and should be discouraged. He would advise therefore an increased tax on sugar. In noticing the views of Bunge, Professor Lépine, of Lyons, takes exactly the opposite view. He shows from Bunge's tables how little lime and iron is taken in our food, and hence the improbability of enough sugar being ingested to make up any appreciable difference. With the French, owing to the high price, sugar is used chiefly as a condiment and only about one-third as much per individual as in England. It would not appear that the English or Americans suffer especially from their excessive use of sugar, unless we can attribute their frequent need of dentists to this cause. It is probable, however, that they really are not very much worse off in this regard than other civilized people, and in other respects they certainly are not suffering physically from excess of sugar ingestion. Professor Lépine, as a hygienist, would prefer to see the consumption of this aliment tripled or quadrupled amongst his countrymen and has no fear that it will ever damagingly displace other essential food substances.

1. Phil. Med. Jour., June 22, 1901.

2. Der Wachsende Zuckerkonsum und seine Gefahren., Ztschr. f. Biol., 1901, xli, 2 s. 155 (referred to by Lépine).

A FRENCH MEDICAL ASSOCIATION OF AMERICA.

The proposition made at Montreal this summer to found a French-speaking medical association for this continent does not apparently receive the endorsement of the English-speaking physicians of Canada. The *Canadian Journal of Medicine and Surgery* deprecates the movement and believes that it would be in no way representative of Canadian medicine; that it would be more patriotic and sensible to form a bilingual Canadian body, in which both languages could be used, and thus sink minor differences in behalf of their common country. Of course, such a body as that proposed at Montreal would be maintainly French-Canadian, the French element in the United States being usually rapidly absorbed in the English-speaking general population. It is a misfortune for Canada that political and religious reasons have there preserved racial types and speech, but with existing conditions it is not unnatural that the French-speaking members of our profession, predominating as they do in a large portion of the Dominion, should propose a cleavage on linguistic lines, and it will be of interest to observe how far the patriotic plea for a united bilingual Canadian association will be effective. The editor says: "Medical science is not limited by geographical or political boundaries," and his closing suggestion that, if French-Canadian physicians "place language on a higher level than patriotism" his English-speaking compatriots in the profession might seek association with their American confrères, seems worthy of consideration.

ABENTERIC TYPHOID FEVER

As an argument against the employment of the term enteric fever to designate the specific morbid process dependent upon the activity of the typhoid bacillus, it has properly been pointed out that the lesions are by no means confined to the intestinal tract, which may, and, in fact, occasionally does, escape involvement entirely. Accordingly, the derivatives, splenotyphoid, pneumotyphoid, pleurotyphoid, have already found their way into the literature as descriptive of special localizations of the morbid process. To these there has recently been added the designation arthrotyphoid, to describe the condition present in a case of typhoid fever reported by

Barjon and Lesieur[1] in which there was articular involvement. The patient was a boy, 17 years old, who had had an attack of typhoid fever at the age of 8 years, and one of acute rheumatism at the age of 11 years; and now, again presented symptoms of the former disease. The spleen was not enlarged, and at first intestinal symptoms were wanting. There was, however, marked arthritis, which had begun in the feet and had extended thence to the hands. There was much delirium, and toward the close diarrhea became profuse. Typhoid bacilli were cultivated from the blood, and the Gruber-Widal reaction was obtained on several occasions. On post-mortem examination no ulceration of the bowel was found. The free borders of the aortic and mitral cusps exhibited hard granulations, pink in color. It is thought that the intestine and the spleen were immune in this case, in consequence of the previous attack of typhoid fever, and that the joints were involved as a result of the injury they had sustained in the earlier attack of rheumatism.

ADRENAL EXTRACT FOR HEMOPHILIA.

In the present state of knowledge, it is difficult to say to what extent the hemorrhage, spontaneous or otherwise, that occurs in connection with the so-called diseases of the blood, is due to deficient coagulability, and to what extent to changes in the blood-vessels. It would seem, however, that the blood-degeneration occurs first and the vascular disease as a secondary condition. Recent observation has shown that preparations of adrenal gland constitute a most efficient hemostatic, and their activity in this direction has been thought to be due principally to their vasoconstrictor influence. That, over and above this, adrenal gland has also some effect in increasing the coagulability of the blood, would seem to be indicated by its successful employment in the treatment of obstinate epistaxis in a case of hemophilia, as reported by Dr. D. McKenzie.[2] A boy, 13 years old, had bleeding from the nose of ten days' duration, for which no cause could be demonstrated. Insufflation of tannic acid, internal administration of calcium chlorid, and plugging of the nares were all tried, but the appearance of a purulent discharge, as well as the discomfort from the presence of the lint used for the last-named purpose, led to the application of a solution or suspension of adrenal extract, with the result that the hemorrhage was controlled. On inquiry, it was learned that the father of the patient had in youth bled constantly and freely from the nose, and still bled freely after cuts or the extraction of teeth; while the maternal grandfather of the parent had been subject to severe nose-bleed. The patient himself had, at the age of 6 years, an attack of epistaxis lasting ten weeks, and shortly afterward, on being operated on for adenoids, continued to bleed for several days. At the age of 9 years, profuse epistaxis occurred, lasting for three days. Besides, slight cuts were always attended with loss of blood out of all proportion to the character of the wound. Free bleeding from the gums followed the removal of loose milk teeth at different times, and bruises were readily induced. Whether the case reported be really one of hemophilia or not it illustrates the efficacy of adrenal gland as a hemostatic, and it certainly justifies the employment of the agent in the treatment of a disorder that has hitherto resisted all other therapeutic measures.

1. Journ. de Phys. et de Path. Gen., March; British Med. Jour. Epitome, May 11, 1901, p. 73.
2. Brit. Med. Jour., April 27, 1901, 1901, p. 1009.

CAN ACQUIRED IMMUNITY BE TRANSMITTED BY HEREDITY?

There is perhaps no more interesting and no more difficult problem in biology than the question as to the transmissibility of acquired characters. It seems not impossible that a compromise answer will afford—here as elsewhere—the true solution, to the effect, namely, that such characters as are purely local are not transmissible by heredity, while those that represent a permanent change in the organism as a whole may be so transmitted, providing, of course, they have developed prior to conception. Thus, the loss of a member or the development of a neoplasm would not be capable of hereditary transmission, nor would disease as such, because of its temporary quality. It may be stated as a general proposition that disease as such is not hereditary, that which may be transmitted by heredity being a certain predisposition or susceptibility on the part of the cells of the organism. Disease in the fetus is acquired directly from the mother, just as occurs in post-uterine existence. An apparent exception is found in the case of syphilis, but even here it is not beyond the range of possibility that the mother had been first infected and through her the fetus. The problem of disease heredity revolves about the question whether the sperm-cell or the ovum may be the seat of disease, and of this convincing evidence is wanting. On the other hand, it can be conceived that immunity is at times transmitted by heredity. Although the mechanism of immunity is not fully understood, it would seem to depend on certain activities residing within the cells of the body, either as an inherent property or as a result of antecedent infection; or within the body fluids. We may accordingly designate the former, which is fixed and obviously can not be conveyed from one animal to another, cellular or biologic, or active; and the latter, which is but transitory and is susceptible of conveyance from one animal to another, chemic or passive. Both of these forms of immunity may be conveyed from parent to offspring, though only the former can strictly be considered as hereditary, while in the case of the latter the transmission is entirely comparable with that which may be effected between one animal and another. Thus immunity may be conferred upon the fetus *in utero* by the blood of a mother passing through an attack of one of the infectious diseases, or on the nursing infant by the milk of such a mother, in the same way as like immunity may be conferred by treatment with antitoxin. The influence of heredity is here out of the question and the immunity is but transitory.

THE TENDENCY TO URBAN CONCENTRATION.

The preliminary census report of the United Kingdom, recently issued, presents some suggestive statistics. Thus, as given in the *British Medical Journal*, the

figures for the total population of England and Wales are 32,526,075. The tendency to urban concentration is shown by the fact that over two-thirds of this population was enumerated in 1122 urban districts, and almost exactly two-thirds, or 21,946,346, in 435 towns of over 10,000 population. Evidently, rural England is badly in the minority. The disproportion must be still further increasing if we are to judge by the percentage of increase in the larger towns, while the smaller show an absolute decrease. Thus, in 472 towns of from 3000 to 10,000 population the decrease during the decade 1891-1901 was 3.51 per cent., and in 215 towns of less than 3000 population it was 12.93 per cent. The sociologic aspects of this concentration of population in cities are perhaps more serious than the medical ones, but the latter are serious enough. It is hardly probable that with all the better facilities for sanitation, etc., that a purely urban population can still avoid breeding physical degeneracy. The man with the hoe, in spite of the sentimental pseudo-philanthropy his hard lot has incited, lives under better conditions for physical development than his brother of the sweatshops and crowded slum. The best blood of the city is recruited from the country, but in England this is evidently a diminishing source and the outcome will be worth watching. Other points that are noticeable in the figures as given are the steadily increasing excess of females over males, at present nearly 7 per cent.; the decrease in the birth-rate and in the average number of persons to a family; and also the decline in the death-rate, showing that at least sanitation is holding its own, and that extraordinary causes of mortality are in check. Our own census shows that one-third of the population of our country lives in towns of 4000 population or more, so we have the same tendencies to meet in a hardly less degree. It may be that our civilization is in a transition period and is adapting itself to new conditions successfully. A hundred, or even fifty years ago, the city growth of the present day would have been attended with evils which we can now hardly imagine and which have been done away with in the progress of medical science and sanitation. We seem to be setting aside the laws of natural selection, by which, at the expense, it is true, of an infinite amount of human suffering, mankind in the past has been constantly rising from lower to higher planes and what the result will be is a question for the future. There are no reliable prophets in these times, but it is safe to say that the colossal human aggregations of the present will insure new problems and work for our profession.

EDDYITES VERSUS VETERINARIANS.

The "christian scientists" are congratulating themselves that they have at last cured a horse suffering with the influenza, and the result is being telegraphed all over the land for the glory of Mother Eddy and her cult. If "christian science" would only go into the veterinary business exclusively there would be little to say against it, for human health and life would not be affected. This would also be the easiest way of settling its merits, as it would there run up against the financial interests, which are always more sensitive to what affects them than are those where credulity comes in play as an active factor. We shall, therefore, be glad to hear of this practice in that line, and hope it will widen out and try itself on glanders, farcy and other little things less certain to get well of themselves than pinkeye or horse influenza.

NEW DEVELOPMENT OF PLAGUE IN SAN FRANCISCO.

Our news columns contain a report of the new outbreak of plague in San Francisco. While this announcement will be received with regret, there need be no fear of the spread of the disease, at least not to an alarming extent, for the conditions now are different from what they were during the past winter. The Chinese part of the city has been thoroughly renovated, and this of itself will remove one cause of the spreading of the disease. The officials representing the Marine-Hospital Service, the State Board of Health, and the San Francisco Board of Health, are working in harmony and the ostrich method of the past has given way to open recognition of the existence of the disease. It is to be hoped that this united action may continue. It is to be hoped also that the authorities will recognize the possibility, if not the probability, of fresh outbreaks occurring in the future, as has been the experience in other plague centers. There must be no relaxation in the vigilance that has been shown for some time, but rather this new development should increase the watchfulness.

DIABETES MELLITUS SIMULATING GASTRO-INTESTINAL DISEASE.

We have scarcely advanced in our knowledge of the nature of diabetes mellitus beyond a recognition of the fact that the disorder represents a derangement of carbohydrate metabolism which may be of multiple or of complex origin. It appears that in health there exists a mechanism through the operation of which the entrance into the blood and thence into the urine of the products of carbohydrate metabolism is prevented, while under certain other conditions this barrier is broken down, with the development of glycosuria or diabetes of varying degrees of persistence and severity. While diabetes is characterized by a more or less definite train of symptoms, the clinical picture is by no means always distinctive, so that the value and the importance of systematic examination of the urine can not be overestimated. In a recent communication, Dr. Emil Schütz[1] calls attention to a group of cases of diabetes mellitus in which the dominant symptoms were gastro-intestinal, and he reports illustrative instances attended with gastric crises, with gastralgia, with intestinal colic and with general dyspeptic symptoms. These manifestations may occur in association or alternation with neuralgia and paresthesia in various parts of the body. The immediate cause of such digestive derangement is to be looked for principally in disease of the nervous system. In the cases in which gastralgia and colic are most conspicuous, disease of the pancreas may be the underlying condition. The course of the symptoms

1. Wiener Med. Wochenschrift, 1900, Nos. 20, 21.

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mentioned will be favorably influenced by an antidiabetic regimen. In all cases of chronic digestive derangement of unrecognized cause repeated examinations of the urine should be made.

THE NEWSPAPER AS A PATHOLOGICAL FACTOR.

A newspaper in an Eastern city changed hands about July 1, and the new proprietor, who has a large practical experience in legitimate journalism, at once formulated a set of rules for the conduct of the paper under its changed management. Among the rules were the following suggestive prohibitions: "No medical advertisements"; no advertisements that a self-respecting man would not read to his family; no advertisements of immoral books, of fortune tellers, of secret diseases, of guaranteed cures, of clairvoyants, of palmists, of massage; no advertisements of offers of large salaries, of guaranteed dividends of offers of something for nothing; no pessimism; no prize-fighting details; no personal journalism; no private scandal. Here is a program that involves the removal of most of the objectionable features in so-called modern journalism. If its details could be conscientiously carried out for newspapers, medical men would find less objection than at present to the promiscuous reading of the daily press, which is working such great harm. Two prohibitions should be added to the list: no details of suicides; no details of homicides, especially such as are committed under circumstances that point to the mental disequilibration of the active agent in the tragedy. If these prohibitions were faithfully kept we should have many less suicides and murders, since often the imperative idea that leads to their committal is suggested by the reading of these cases. How important the influence of such stories is on the mentally unbalanced, can be best realized from the fact that crimes of peculiar heinousness occur in groups. The time relation of these groups, taken in connection with their inevitable recurrence, shows that they are not mere coincidences, but are due to the rigid principle of cause and effect. It has been said that it is impossible to correct the sensational defects of the modern newspaper. A distinguished dramatic manager, when asked where he would begin if he wished to reform the American stage, said that he would begin with the audiences. This principle will apply to journalism. We shall have cleaner newspapers when readers demand and support them. Meantime, much can be done to raise the standard of taste among newspaper readers. So many of the prohibitions that should be enforced in the make-up of the daily newspaper have special reference to health matters that it is evident that medical men should take a lively interest in the subject. It is a duty of the physician to try to secure the suppression of the objectionable advertising matter that is flaunted in the faces of readers and that does so much moral and physical harm.

MAGNET FOR REMOVING TUBE FROM LARYNX.—Collet of Lyons introduces a curved magnet into the pharynx, following the base of the tongue. The laryngeal tube clings to and is easily drawn out with it. This device has proved extremely useful in emergencies, as no skill is required to remove the tube in this way.

Medical News.

CALIFORNIA.

The College of Physicians and Surgeons of San Francisco, at its commencement exercises, July 2, conferred the degree of Doctor of Medicine upon thirty-seven students.

Park Emergency Hospital.—The sum of $5000 has been set aside by the Board of Supervisors of San Francisco for the construction of an emergency hospital in order that people injured in the park may be properly treated.

A chair of anatomy in the University of California has been created, and Dr. Joseph Marshall Flint, instructor in anatomy at the University of Chicago, has been appointed to occupy it, with a salary of $3000 a year. It is the expressed desire of the Regents later to establish a scientific medical school at the University, which shall be under the complete control of the state.

Fakirs and Quacks will be Weeded Out.—The Los Angeles Board of Health has issued a notice to every practicing physician, dentist and pharmacist in the city notifying them that in case they have not registered according to law, but ten days more will be permitted them to do so, and that a failure to comply will be followed by legal prosecution. A fine of from $50 to $500, or imprisonment from 30 to 365 days, or both, is the penalty fixed for attempting to practice without a license.

CONNECTICUT.

A $25,000 appropiation has been made by the state legislature to the Hartford Hospital for the purpose of providing a special building for the treatment of pulmonary tuberculosis.

The State Board of Medical Examiners recently passed a rule in which they admit to examination only those who have graduated from a medical college. Hitherto they had allowed an applicant to take the examination. Another rule makes the examination fee $15 instead of $10.

Hospital Staff Changes.—At the General Hospital, New Haven, Dr. James W. Dounce has been promoted from assistant house-surgeon to house-surgeon, Dr. Thomas F. Maher, Yale, 1901, becoming assistant, and Dr. Carl W. Henze, formerly assistant house-physician, to the position of house-physician, his place being taken by Dr. Edward E. Meyers, Harvard, 1901.

Epileptics in Connecticut.—The committee, consisting of Drs. Max Mailhouse, New Haven, Edwin A. Down, Hartford, and Frank K. Hallock, Cromwell, which was appointed to ascertain for the Connecticut State Medical Society the number and condition of epileptics in the state has completed its inquiry. The number reported was 542, of whom 315 are males and 227 females. According to the report, 224 cases are in public institutions; 114 are capable of self-support, and 128 adult epileptics are insane. The committee reports a lack of interest in the welfare of epileptics, and that little is done to promote their comfort and to ameliorate their condition. The investigators regard the number of cases reported to them to be the minimum, and are convinced that the actual number of epileptics in the state is not less than 1000.

DELAWARE.

Wilmington has awarded the contract for building a $3500 pest-house at Farmhurst.

Delaware Medical Examining Board has granted licenses to practice to seven of the nine candidates who appeared before it recently for examination.

Through the will of Mrs. Caroline McClary, Wilmington, the sum of $5000 has been given the Delaware Hospital for the endowment of a free bed in memory of her husband, Samuel J. McClary.

DISTRICT OF COLUMBIA.

Dr. C. B. Purvis sailed for Europe on the steamship *Etruria*, July 6.

Providence Hospital.—The sum of $250,000 has been spent in improving and making additions to the hospital and both from a practical and artistic standpoint when completed it will be a credit to the city of Washington.

Smallpox Hospital Closed.—The quarantine station for the District was closed July 7, after the release of the seven suspects, who were declared out of danger, and the dismissal of the six guards who have had charge of the hospital during the epidemic. Officially the city is free from smallpox.

Changes at the Casualty Hospital.—Dr. Henry Tobias has been appointed resident physician at the Casualty Hospital and Eastern Dispensary. Dr. Thomas G. Jones has been made assistant resident physician, in place of Dr. R. A. Warner, who becomes interne at the Washington Asylum Hospital.

Increase in Insanity.—Statistics recently compiled by the local health office show that during the year ending July 1, 1900, 270 persons were adjudged insane in the District, while the fiscal year ending July 1, 1901, gives a total of 295 cases sent to the asylum. Of that number nearly 200 cases have been heard within the past six months.

GEORGIA.

The new Presbyterian Hospital at Atlanta was formally opened July 1.

Twenty-eight beneficiary scholarships in the Augusta Medical College, a department of the State University, were bestowed by Governor Candler, July 2.

Dr. Warren A. Brewster, who for the past year has been senior resident physician at the Lamar Hospital at Augusta, has been appointed superintendent of the City Hospital at Augusta.

An epidemic of anthrax is afflicting Bolivar County, and the State Board of Health, owing to the failure of the State Legislature to make, at its last meeting, the necessary appropriation, is unable to check the spread of the disease. A special joint meeting of the Board of Public Contracts and the executive committee of the Board of Health has been held, but as yet no funds for the establishment of the necessary quarantine have been secured.

ILLINOIS.

Dr. Joseph M. D. Robbins, Quincy, has assumed charge of the State Insane Asylum at Jacksonville.

Dr. R. H. Mead, Camden, has been appointed on the staff of the Chester penitentiary at a salary of $1500 a year.

Dr. Nelson K. McCormick, Normal, has been re-elected physician to the Illinois Soldiers' and Sailors' Home at Normal.

Dr. Philip F. Gillett, Stillman Valley, has been appointed assistant physician at the Northern Illinois Hospital for the Insane at Elgin.

Dr. George E. Baxter has been appointed physician to the State Institute for the Blind, at Jacksonville, to succeed Dr. Frank P. Norbury, resigned.

Dowie's leases in his new home of the to-be-blest Zion City are for a term of 1100 years and provide that the leased ground can not be used for drug stores or physicians' homes or offices.

Dr. E. R. Whitmore, who has recently finished his service in the Cook County Hospital, has been commissioned Assistant Surgeon, U. S. A., with the rank of first lieutenant and will be assigned to duty in Washington during the coming winter.

Trained Nurses Organized.—Under the title of the Illinois State Association of Nurses the trained nurses of this state have formed a permanent organization. The primary object is to secure state legislation looking toward the passage of law prohibiting the practicing of nurses without a diploma granted by a training school. Representatives from all the training schools throughout the state were present at the recent meeting held in Chicago and the following officers were elected: President, Miss Harriet Fuimer, St. Luke's training school; secretary, Miss Seiderstriber, Hahnemann training school, and treasurer, Miss Ledwich, Illinois training school.

Chicago.

Dr. Wladislaw A. Kuflewski was elected vice-president of the Public Library Board, July 11.

Dr. August M. Unger was convicted of conspiring to defraud insurance companies and sentenced to the penitentiary, the motion for a new trial being denied. This closes the famous Defenbach case.

The College of Physicians and Surgeons has selected its officers for the coming year, as follows: Dr. D. A. K. Steele, actuary; Dr. William E. Quine, dean, and Dr. Frank B. Earle, secretary, vice Dr. W. A. Pusey, resigned.

Cook County Hospital is being fitted with two new boilers at a cost of $16,550. The recent investigations by the special committee, selected for that purpose, left no question as to the insufficiency of the boiler capacity in the hospital.

Bad Milk at Cook County Hospital.—The warden of the hospital complains of the filthy sediment found in the milk provided to the hospital. He submitted some milk for analysis to the city bacteriologist, who found that it contained formalin.

Big Fee Not Allowed.—In the suit against the estate of the late millionaire, Francis T. Wheeler, brought by Dr. Emma N. Warne for the sum of $100,000 for professional services, the claim was denied by the Probate Court. Dr. Warne has announced her intention of appeal.

Deaths and Public Health.—With an extreme range of 46 degrees in maximum temperatures—from 56 on July 7 to 102 on July 10, this latter being the highest ever recorded in Chicago—the total deaths reported from all causes last week were only 460, or but one more than during the previous week. The public health conditions have rarely been more favorable. Laboratory examinations show a remarkable absence of contagious-disease germs and the health department reports the fewest number of these diseases notified in any one week since the summer of 1899.

IOWA.

The Sioux City College of Medicine will have the same officers for the coming year, and Dr. J. H. Robbins has been elected to fill the chair of pathology.

Delegates Appointed.—Dr. Van Buren Knott, Sioux City, and Dr. John C. Schrader, Iowa City, have been appointed by Governor Shaw as delegates to the British Congress on Tuberculosis in London.

Insane Hospital Burned.—Fire completely destroyed the Insane Hospital, the Des Moines County Poor-farm and the overseer's residence, at Burlington, July 14. All of the inmates were gotten out safely, but several of the insane patients escaped during the excitement. The loss is estimated to be $40,000, with $25,000 insurance.

MARYLAND.

Baltimore.

Dr. J. Frank Crouch sailed for Germany July 18.

Drs. Francis T. and L. Wardlaw Miles sailed for Europe July 13.

Dr. T. Caspar Gilchrist sailed for England, July 20. He will pay a flying visit to Germany during his absence.

Drs. J. R. Bosley, G. R. Holden and J. C. Salter sailed from this port, July 10 on the North German Lloyd steamer *Frankfurt*, for Bremen.

Owing to smallpox in Sussex county, the State Board of Health has formally notified the Delaware Board of Health that, unless more rigid measures are taken to control the smallpox now in Delaware, a state quarantine will be declared in Maryland against the State of Delaware.

The Medical and Chirurgical Faculty of Maryland is at last entirely out of debt, through the energetic exertions of its treasurer, Dr. Thomas A. Ashby. Since 1896, when the Society moved into its new quarters, 847 Hamilton Terrace, about $25,000 has been raised among the members.

The trustees of the Sheppard and Enoch Pratt Hospital for the Insane will erect a recreation building for the use of patients at a cost of about $15,000. The house will be built on the Casino plan, one story in height, and will be divided into two departments, one for women and the other for men.

NEW JERSEY.

An anti-spitting ordinance has been recently passed by the Plainfield Board of Health.

Dr. Sewell O. B. Taylor, Millstone, has been elected physician of Somerset County to fill the unexpired term of the late Dr. Henry G. Wagoner, of Somerville.

In a competitive examination, Dr. Leo Spiegel, New York, obtained the position of house-surgeon, and Dr. Oscar J. Russi, Bordentown, N. J., that of house-physician in St. Francis Hospital, Jersey City.

State Board of Medical Examiners.—At the annual meeting of the State Board of Medical Examiners, held at Newark, July 5, the following officers were elected: President, Dr. Charles A. Groves, East Orange; treasurer, Dr. A. Uebelacker, Morristown; secretary, Dr. E. L. B. Godfrey, Camden. Fifty-one candidates for licenses were examined, and of that number 29.4 per cent. were rejected.

NEW YORK.

Anthrax has broken out among the cattle in the neighborhood of Higginsville near Rome. Many head of cattle have died, and the state authorities have been notified.

Statistics of work done by the health department at Albany, show that 7000 people have been vaccinated during the epidemic of smallpox now existing at that place.

"Bonesetter" Sweet has been arrested, at the instigation of the Otsego County Medical Society, for practicing surgery without a certificate. He comes from a family long known in Otsego county as "bonesetters," and his arrest is the result of a resolution recently passed at the County Society meeting to prevent any one practicing without a certificate.

Hospital Changes at Syracuse.—At the Hospital of the Good Shepherd, Dr. C. F. Ostrander, formerly house-physician, becomes house-surgeon, and Dr. Albert E. Stafford becomes house-physician; Dr. Henry G. Thrall will become ambulance-surgeon, Jan. 1, 1902. At St. Joseph's Hospital, Drs. William J. Mulheran and T. L. Hatch began their services as internes, July 1.

The Board of Regents of the State, who have entire control of all educational matters, has, at the request of the Medical Examining Board, made a regulation that examinations in anatomy, physiology, hygiene and chemistry be permitted at the end of the candidate's second year of study, immediately after his completion of these subjects, the final examination, in the other subjects, being held only after the medical degree has been received.

Buffalo.

Dr. Nelson G. Russell has been appointed pathologist to the German Hospital.

Dr. Lorenzo Burrows has been appointed ophthalmologist to the Buffalo General Hospital, succeeding Dr. Frank Abbott, deceased.

German Hospital Clinical Society.—The members of the staff of the German Hospital have organized a clinical society. Meetings will be held monthly at which the attending physicians will demonstrate cases of interest in their respective departments. The first meeting will be held in August and an invitation will be extended to the members of the Central New York Medical Association, which is to meet in Buffalo at that time, to be present.

New York City.

Deaths from Heat.—The official reports of the Bureau of Vital Statistics of deaths from heat for the week ending July 6, show that the actual number in the five boroughs of Greater New York was 989.

New York City's death-rate for last week was 40.82 per 1000 per annum, almost double the usual summer rate, and this large increase was due to the excessive heat that prevailed in the early part of the week. There were 2767 deaths from all causes against 1524 for the corresponding week in 1900.

Bellevue Hospital Buildings Condemned.—The State Board of Charities, at its meeting in Albany, July 10, condemned the main buildings of the Bellevue Hospital as being too old and insanitary. A resolution was also passed to increase the compensation of employes in the interest of improved service. A modern hospital is to be erected as soon as possible.

Suit for $10,000 damages has been begun against Joseph J. Gansky, a dealer in anatomical instruments in Brooklyn, on the grounds that he undertook to treat a case, representing himself to be a licensed physician. The plaintiff, Sadie Schoenberg, 10 years old, through her attorney, alleges that the amputation of her leg, which was found necessary at St. Vincent's Hospital, May 2, was due to the mismanagement of her case by the defendant.

The Manhattan Maternity and Dispensary, the object of which is to supply medical and surgical treatment to the poorer class of women, to provide facilities for the instruction of physicians and students, and to establish and maintain a training school for nurses, has been incorporated. Through the generosity of an unknown philanthropist, who has endowed the institution with the sum of $1,000,000, this work will be made possible. Dr. J. Clifton Edgar, who has dispiayed much interest in this work, will probably have charge of the institution.

Summer Health Inspection.—The Health Department, represented by seventy-five physicians in their employ, began, on July 8, a thorough inspection of all tenement houses. The duties of these physicians are to care for any sick, unable to employ a physician; to advise mothers as to the proper method of caring for children; to abate nuisances, or to report them to the proper authorities; to distribute tickets for outings given by St. John's Guild; to give free ice tickets where needed, and to note any habits which may be unhealthful.

The population of New York City on Dec. 31, 1900, as estimated by the Board of Health, now appears as follows: Manhattan Borough, 1,850,093; Brooklyn Borough, 1,166,582; Bronx Borough, 200,507; Queens Borough, 152, 999; Richmond Borough, 67,021; making a total of 3,437,202. Of this total city population those living in tenements number 2,382,605, about two-thirds of the whole, the remaining one-third residing in private houses, hotels and boarding houses. The proportion living in tenements becomes much larger in the city proper when we consider the fact that the boroughs of Bronx, Queens and Richmond are largely rural.

OHIO.

Dr. George J. Fisher, Cincinnati, has been selected as chief of the medical staff for the Y. M. C. A. convention to be held in that city. He will be assisted by Drs. Edward S. Johnson, E. Otis Smith, Milton G. Blunden, Frederick Theiss, Albert Gusfetter, S. A. Allgaier and Edward H. Moss.

State Examination.—The State Board of Medical Registration and Examination held a meeting, July 9, 1901, for the purpose of passing on the grades of applicants examined on June 11, 12 and 13, 1901. There were 37 applicants examined, 29 of whom passed successfully; 7 were rejected and one was dismissed from the room for using a book to secure aid in answering questions.

In the suit of Dr. B. Merrill Ricketts, Cincinnati, against James W. Brown, for medical services to the defendant's son, the jury returned a verdict for the full amount of the claim, $826.26. The defense, that the son was of age at the time that the services were rendered, was not regarded by the jury because it was shown that the father had engaged the Doctor and told him to spare no effort or expense in the treatment of the case.

PENNSYLVANIA.

Dr. Francis Rahn, recently elected resident physician of the Norristown Charity Hospital, entered upon his service July 1.

Dr. Mary McCay Wenck, Sunbury, Pa., sailed on the *Laurentian,* July 6, for Glasgow. She will visit England and France.

Dr. Carmichel, a recent graduate of the University of Pennsylvania, is resident physician of the Chester County Hospital, at West Chester.

WISCONSIN.

Dr. John R. Currens, Two Rivers, has been re-elected president of the State Board of Medical Examiners.

Smallpox in the State.—From the reports of the disease throughout the northern parts of the state, the situation is still considered serious.

"Dr." John Shenion Convicted.—At Manitowoc John Shenion, Reif's Mills, was convicted of the charge of practicing medicine without a license and was fined $50 and costs. Not being able to pay his fine, he is now serving out a sentence of ninety days in jail.

Medical Law Sustained.—The law passed by the last legislature, requiring an examination of all applicants for licenses to practice who are not graduates of a Wisconsin college, was held in the Circuit Court to be constitutional and a valid exercise of the police powers of the state. This decision was rendered to quash the writ of mandamus served on the State Board of Medical Examiners, to compel them to issue a certificate to Dr. James R. Kellogg, Portage, who is a recent graduate of the College of Physicians and Surgeons, Chicago. An appeal was taken to the Supreme Court, where the case will come on for trial at the August term, and will be watched with much interest.

GENERAL.

New Cases of Plague in San Francisco.—Bubonic plague has again broken out in San Francisco, four cases having already been reported. The first case was that of a Chinaman, who died July 6. It is reported that he arrived in San Francisco a few days before from one of the lower islands on the Sacramento River, and that he was ill when he reached the city. An autopsy was performed and diagnosis of bubonic plague was verified by bacteriologic examination. After the death of the Chinaman three more deaths were reported. These were Japanese women who were living in a brothel on Stockton Street, in the Chinese section of the city. Bacteriologic examination confirmed the diagnosis in two of these; the result of the third had not yet been reported up to the writing of this note. Two of these cases were ill with the disease a week before the Chinaman landed in San Francisco, so they have no relation to that case. Another case is reported among the Japanese women, but not confirmed. This seems to be a new outbreak, as no new cases have been discovered for three months, the last case reported by the Marine-Hospital Service being April 4. The local and state boards of health seem to be working more in harmony now than during the former outbreak, and in unison with the Marine-Hospital Service. The cleaning of Chinatown was completed June 22, but inspection and postmortem examinations of Chinese have been continued under direction of the Marine-Hospital Service.

Enno Sander Prize.—The prize for 1901-1902 has been generously increased by its founder to consist of a gold medal, valued at $100, and $100 in cash. The subject for this year is "The Most Practicable Organization for the Medical Department of the United States Army in Active Service." The following are the conditions of the competition: 1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States. 2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit, for honorable mention. 3. In fixing the precedence of the essays submitted, the board will take into consideration—primarily—originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character. 4. Essays will consist of not less than 10,000, nor more than 20,000 words, exclusive of tables. 5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the secretary of the Association, so as to reach that officer on or before Feb. 28, 1902. 6. The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the secretary in a sealed envelope together with the author's name, rank and address. 7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded. 8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications. The Board of Award consists of William Cary Sanger, Assistant Secretary of War; Brigadier General George Miller Sternberg, Surgeon-General, U. S. Army, and some distinguished officer of the line to be announced later. Major James Evelyn Pilcher, Carlisle, Pa., is secretary of the Association.

FOREIGN.

Professor von Koranyi has endowed a prize to be awarded every five years for a publication on the cure of tuberculosis. The occasion was the golden jubilee of his professional career which was celebrated recently.

Italian Congress of Internal Medicine.—The Eleventh Congress of Internal Medicine will be held at Pisa, October 24 to 28. Addresses will be delivered by Queirolo and Fedeli on "Peritonitis in Typhoid Fever;" by others on "Modern Questions in the Pathology of the Liver," and by Baccelli on "Certain Problems in the Pathology of the Heart."

American Dentists in Germany.—The Association of German Dentists is planning to vigorously oppose the practice of American dentists in Germany. The latter seem, by their superior ability, to be gaining a foothold that is very annoying to the native dentists and the opposition is probably a result of jealousy. The aid of physicians is asked for, they being urged not to give anesthetics to the patients of the Americans. The physicians, however, do not seem willing to lend their support to the movement.

Society for Sanitary and Moral Prophylaxis.—The Belgian government has appropriated $400 to assist in defraying the expenses of the quarterly issued as the "Bulletin of the International Society for Sanitary and Moral Prophylaxis." The first number has already appeared and contains a fine article on the Prophylactic Congress, with outlines of circulars for collecting general statistics, etc., and among others communications from Neisser and Minod on the importance of personal prophylaxis against venereal infection, and minors as prostitutes.

Medical Regulations for German Students.—The new regulations in Germany practically lower the standard of admission to medical study in the universities, but extend the course to six years, as ten semesters are required instead of nine as heretofore, and after graduation, the candidate for a physician's title must first pass a year in a clinic or polyclinic connected with the university or some hospital. If no such opportunity presents itself, the graduate may be authorized by the chancellor to act as assistant to some physician with a large practice. Failure to pass three examinations in the same branch of the medical sciences definitely excludes the student from the course, and also failure to pass a portion of the same examination on three consecutive years.

LONDON LETTER.

The Census.

The preliminary report on the recent census in England and Wales has been laid before parliament. The total population was found to be 32,526,075 which shows an increase of 3,523,550 upon the population in 1891, giving a decennial rate of increase of 12.17 per cent., as compared with 11.65 of the previous decennium. The increase now recorded is numerically greater than in any previous decennium, but the rate per cent. is lower than in previous decennia excepting those terminating in 1861 and 1891. The mean of the decennial rates of increase in the ten decennial periods 1801-1901 has been 13.84 per cent. The highest rate was in 1811-21, when the percentage rose to 18.06, and the lowest in 1881-91, when it fell to 11.65. In 1881-91 the excess of births over deaths was 3,629,474 or 13.97 per cent.; in 1891-1901, 3,593,553 or 12.39 per cent. Had the loss of population by excess of emigration over immigration been at the same rate as in 1881-1891 the decrease under this heading would have been 671,502, whereas it actually was 70,003. But for the unusual drain on the population by the South African War this loss would have been wiped out, and for the first time a gain would have been established by excess of immigration over emigration. Since the accession of the late queen in 1837 the population has more than doubled. The present population consists of 15,721,-

728 males and 16,804,347 females. The excess of females is partially attributable to the number of men serving in the army, navy and merchant service abroad, who are excluded from the reckoning. To each 100 males enumerated there are 106.9 females. The proportion of females has been steadily increasing since 1851, having been successively 104.2, 105.3, 105.4 105.5, 106.4, and 106.9 to 100 males. The increase of population has principally taken place in the urban districts. The urban districts contain 77 per cent. of the population and show an increase in the decennium of 15.2 per cent., the rural districts of only 2.9 per cent. The population of London is 4,536,063, showing a decennial increase of 307,746. As in previous census reports it is found that in the center of London there is a group of districts in which the population has long been decreasing, owing to the substitution of business for dwelling houses, that round this central area is a ring of districts which have undergone a more or less rapid increase, and that outside this is a wide belt of suburban districts in which the population increases with extraordinary rapidity.

A summary, subject to revision, is given of the population of the United Kingdom which amounts to 41,454,578, showing an increase of 3,721,856. The population of Scotland is 4,471,957, showing an increase of 446,310. The population of Ireland is 4,456,546,—a decrease of 248,204, or 5.3 per cent. In the preceding decennia the decrease was 4.4 and 9.1 per cent. The excess of births over deaths was 218,222, hence the loss by emigration was 466,426. In 1821 the population of Ireland constituted 32.6 per cent. of the United Kingdom. Since then it has continuously decreased and now it constitutes only 10.8 per cent.

Municipal Consumption Hospitals.

The anti-tuberculosis movement in this country still continues to be very active. The latest phase is shown by new departures in municipal work in two great cities. At Edinburgh it is proposed to establish an hospital of 100 beds for incurable cases of consumption so as to diminish the risk of the patients becoming a source of infection. The idea of the health authorities is that such cases are, from the public health point of view, on the same footing as the acute fevers and should be isolated. A hospital with 100 beds would, it is thought, be capable of accommodating 400 patients annually at a cost of 825,000. In Sheffield, on the other hand, it is proposed to take means to facilitate the arrest of the disease. The Corporation propose to maintain a sanitarium for the treatment of poor persons suffering from consumption. Over 500 deaths from the disease take place every year, and it is estimated that at one time there are 1500 to 2000 persons suffering from it. It is proposed to limit the cases admitted to patients in the early stage. The time of residence required for the arrest of the disease is estimated at 3 to 6 months. For the treatment to be of real value it will be essential that the patient does not return to his insanitary surroundings or unhealthy trade. The committee who manage the institution will instruct the patient to get ino a more sanitary house and assist him in obtaining another occupation if necessary.

CANADA.

Appointment.—Dr. Thomas H. Lunney has been appointed superintendent of the General Hospital, St. John, N. B., succeeding Dr. John MacCauley, who resigned. Dr. Lunney is a native of St. John and was graduated from McGill, Montreal.

Ottawa's Mortality Rate.—The mortality amongst infants and children in Ottawa still continues high. On the 11th, 9 deaths were registered, the largest number noted in one day during the year. For the month of June the number was 108. Since January 1 there have been 520 deaths in the Catholic parishes of the city.

New Hospital.—St. Stephens, N. B., proposes erecting a new hospital and Lady Tilley, wife of the late lieutenant-governor, Sir Leonard Tilley, is at the head of the movement. A splendid site has been donated and it is expected that the equipment will be provided by public subscription and the maintenance secured by a grant from the local government. Already five beds have been endowed and others practically guaranteed.

Smallpox Among Berry-Pickers.—Dr. C. A. Hodgetts, special officer of the Ontario Board of Health, has returned to Toronto after investigating the smallpox outbreak among berry-pickers in Brant County. During his visit of inspection he visited 34 houses and found that there had been altogether since April no less than 98 cases of smallpox or varioloid. Of the remaining 56 persons who were in the infected houses, 45 had been successfully vaccinated, thus forming a striking contrast to the 81 unvaccinated persons who had suffered from the disease. According to age, two cases were under one year; from one to ten, 40 cases; ten to twenty, 18 cases; twenty to thirty, 13 cases; thirty to forty, 10 cases; forty to fifty, 7 cases; fifty to sixty, 5 cases; sixty to seventy, 3 cases.

Ottawa Contagious Diseases Hospital.—For a long time Ottawa has been endeavoring to establish a proper hospital for infectious and contagious diseases, but so far their attempts have proven of no avail; now a new feature has appeared on account of it having been alleged that certain aldermen are in a deal, so an investigation has been ordered. About two weeks ago the city council suddenly came to a decision one night to buy a lot of land on the high sandy banks of the Rideau, in the rear of the Protestant General Hospital, and agreed to pay $31,000 for it, which is said to be just double the assessed value of the property. Ever since the decision to purchase was arrived at there have been persistent rumors that some aldermen profited by the deal; and now the mayor has requested the city solicitor to institute an inquiry to ascertain whether it is true that some of the aldermen and even members of the board of health are implicated in this transaction. In the meantime while all this trouble is pending, there is, according to the statements of the city health officer, an alarming prevalence of contagious diseases and a lack of adequate means of isolation.

Health in Ontario Lumber Camps.—The Ontario government has made an important and timely move in adopting regulations to safeguard the health of workmen employed in lumber camps and other unorganized districts of the province. These regulations will hold the owner, manager or foreman of every lumbering camp, mining camp, saw-mill, smelting works, railway construction camp, or other industry, responsible for the enforcement of all provisions as to sanitation. They regulate the size of tent or houses and the ventilation thereof. They further provide for a hospital tent or building which must be located by the physician in charge in a position to satisfy the inspectors of the provincial board of health. The regulations are comprehensive and have been prepared with a view to the protection of a population numbering at least 100,000 distributed over some 400 unorganized townships extending over 1200 miles from the Ottawa River to the Manitoba boundary. It is specially requested that prompt notice be given the provincial board of health in Toronto of all outbreaks of contagious diseases, and all insanitary conditions discovered in lumbering and mining camps.

Miscellany.

Bacteriology of Phthisis.—The researches of Lasker, described in the *Deutsche Aerzte-Ztg*, No. 2, seem to solve the question as to the presence of bacteria in the blood in cases of pulmonary phthisis. He found the blood sterile in 67 out of 68 patients investigated with the most scrupulously careful technique. The patient with the positive result died nineteen hours later, so the presence of staphylococci in the blood may have been an agonal phenomenon. This may explain possibly the positive results of bacteriologic investigation by otners, or they may have been due to contamination from the skin.

The Diazo-Reaction in Pulmonary Tuberculosis.—Stadelmann states in the *Deutsche Med. Woch.* of June 20, that the diazo-reaction was noted in 55 out of 152 cases of pulmonary phthisis. It was observed in 38 out of the 69 exceptionally severe cases. He concludes that this reaction has no significance for the diagnosis, but affords important information in respect to the prognosis when the test is positive, although 40 to 50 per cent. of the severe cases do not give the reaction. He points out also that the reaction is only significant when it persists. It may appear temporarily in light cases and it may be absent in many serious cases, but when it is persistent, even in apparently mild cases, it is a warning for especial vigilance over the patient.

The False Pregnancy of the Queen of Servia.—The *Sem. Med.* of May 22, published the letters written and received by Dr. Caulet, the Paris physician of the Queen of Servia. He states that he was summoned to her thirty-three days after her marriage and from the suppression of the menses, nausea, and swelling of the breasts, he informed her of the possibility of a commencing pregnancy and advised her to give up a tedi-

ous trip she had in prospect. He then returned to Paris but wrote to her five months later demanding an examination. In reply he was informed that he would be summoned for the accouchement, but in the meantime she was in charge of her local physician. When summoned at term, he found no traces of a pregnancy. Sneguireff arrived from Russia the next day and the bulletin signed by both physicians confirmed the fact that there was no basis for the assumption of a pregnancy beyond the partial suppression of the menses, gastric disturbances, increasing obesity and flatulence, although, Caulet adds, the subjective symptoms of this "nervous pregnancy" might have deceived even an experienced mother.

Precautions Necessary with Hydrogen Dioxid.—Two French professors at Lyons have recently called attention to the ready absorbability of hydrogen dioxid and the consequent danger of fatal gaseous embolism from bubbles of oxygen forming in the blood after absorption, when it is applied to an open wound or to detach an adherent dressing. In contact with the blood, as with pus, the effervescence continues. The oxygen is disposed of by the oxyhemoglobin in the blood if the amount is small, and no harm results. Inflamed tissues are peculiarly active in decomposing the dioxid, and absorption is always slow and gradual in all cases. Crolas advises rendering the dioxid alkaline by adding a saturated solution of sodium borate, a drop at a time, until litmus paper—first reddened by the dioxid—regains its blue color. Even aside from the fear of gaseous embolism, the dioxid should always be neutralized, as it is liable to contain more or less sulphuric, phosphoric or other acids. It should never be used stronger than eight to ten volumes, and always fractioned and in moderate amounts. With these precautions there need be no fear of the slightest evil effects from its use.

Another Fad—Air and Sun Cure.—According to a newspaper report there exists on Long Island an institution for physical culture, where the "air and sun cure" is carried on in such a way as to arouse considerable opposition on the part of permanent residents. The treatment seems to include the use of pretty nearly a minimum of clothing and this in both sexes, and on the public roads, at the local postoffice and the railroad station. The sights at the depot became the gossip of the road and attracted curious visitors, while they scandalized the residents. It was when the "sun curists" finally attempted to invade the village church in their abbreviated costume that the storm broke and the citizens met in conclave and protested, sending word to the proprietor of the resort that while they had no objections to the methods, if carried on in due privacy, they distinctly objected to the cure being taken in the scanty clothing on the highways and in the public places. Unless this was discontinued, the paper asserts, it was intimated that the patients would soon have other ailments to nurse. For a time the protest had some effect, but with the advent of hot weather matters are reported as bad as ever, and recourse is threatened to legal proceedings. Allowing for sensational newspaper embellishments, the account, if it has any basis at all, would indicate peculiar methods and management in the "physical culture health home."

"Fatty Heart."—Hirsch corroborates Robinson's statements that the mass of the musculature of the heart is directly proportional to the mass of the muscles of the rest of the body. Many obese persons have a small, insufficient heart and their general musculature is correspondingly defectively developed, —"their thick layers of fat hide their emaciation." Their cardiac disturbances are not due to a fat heart, but are merely heart troubles in an obese subject. They are of diverse nature, from simple weakness of the heart, due to the lack of proportion above mentioned, to stenocardia developing on a basis of arteriosclerosis. Hirsch has observed attacks of angina pectoris on a purely nervous foundation in obese smokers, and urges that this possibility should always be borne in mind. Some obese persons with arteriosclerosis have attacks of dizziness, not followed by paralysis. Others have a hard, wiry pulse, which reveals the localization of the arteriosclerosis in the splanchnic region, and impending hypertrophy of the heart. Chronic interstitial nephritis is a frequent complication of obesity, especially in beer-drinkers. The treatment should aim to continue the increase of albumin while that of fat is arrested. The amount of food may be insufficient, indicated by dizziness in the forenoon, relieved by a lunch between meals. Hirsch recommends moderation in exercise for these patients, and the ergostat rather than sports. A swelling of the liver in connection with slight ascites is an important early sign of congestion of the veins in the trunk. The filling of the liver with blood is the chief means of determining the functional capacity of the right heart. When this reservoir no longer suffices, venous congestion follows.

The Prevention of the Spread of Acute Contagious Diseases.

A noted modern philosopher said that if he were asked to name the greatest and most beneficial discovery of the 19th century, he would not hesitate to say that it was the revelation that contagious diseases were due to germs. This far exceeds in importance, in health matters and happiness, all that steam and electricity and other inventions could bring forth. What are all their gains, if spreading diseases and terrific epidemics have full sway and are at liberty to increase without limit, carrying pain, anguish, desolation and despair to all? The next most important discovery is that the greatest number of these germs are easily killed, because they have no spores, such as the germs of plague, cholera, yellow fever and diphtheria. Experience shows that the germs of scarlet fever, measles, variola, although not as yet discovered, are also easily killed. The germs of tuberculosis, although not recognized as truly spore-bearing, are hard to kill. Anthrax and rabies are the only spore-bearing diseases which may affect men, and are therefore hard to kill. But these are rare compared with the other contagious diseases. We have learned that persons whose clothes are disinfected can not communicate a contagious disease until they become sick with fever. We are also realizing that clothing worn by persons not remaining in an infected room more than a few minutes, like physicians, do not carry disease.

How many days after the first appearance of the fever a contagious disease can be communicated is not known positively. It can be safely accepted that it requires at least two or three days, except for diphtheria. The mild cases are the most dangerous, because they escape attention, but they infect all the same and may beget grave and mortal cases. Therefore when there is the least reason to suspect the presence of a contagious disase in a locality, we should disinfect all cases of acute febrile sickness as soon as fever is discovered. It was by following regulations strictly that during the epidemic of 1897 in the City of New Orleans, inmates, that is, nurses, students, servants of the Isolation Yellow Fever Hospital, Touro Infirmary and Hotel Dieu, were not affected by the fever, although very few were immunes. When cases of fever occur under these circumstances they are exceptional and are due to some disregard of some regulation. A professional trained nurse is usually the best attendant, but a willing, intelligent and active person in good health can efficiently do the work of protection and salvation. The inmates who go in and out of the house must remove their clothes when they come in and leave their clothes in a room remote from the sickroom. This in case, through some negligence, the room has become infected. It is important that no clothes, no bedding, nothing leaves the room, to be used or not in another room, unless it has been thoroughly disinfected. There can be no such thing as partial disinfection. One handkerchief, towel, toy or other article sent out of the sick room without being disinfected may scatter infection. It is unsafe to remove from the room any article that has remained in the room forty-eight hours after fever has manifested itself. We must ever bear in mind that a mild case may cause a malignant case in another. Isolation is an additional precaution, but it is not absolutely necessary. At the Touro Infirmary, Dr. Loeber does not isolate his cases of yellow fever. He places them in whatever bed happens to be vacant, next to a case of typhoid fever or of pneumonia. But he instructs the nurse to be particularly watchful to disinfect at once all that comes from the patient. And yet no case he

says has ever originated in Touro Infirmary. These statements are in writing over his signature and on file in the office of the Louisiana State Board of Health. Isolation alone at best can only postpone the spread since it can not be eternal and as soon as it ceases those coming in contact with the infected room and fomites run great risk of taking the disease.

Nor is detention of patients after recovery any protection as far as the fomites are concerned. Disinfection, therefore, is the sheet anchor. Care and vigilance are required, of course. But we must remember that as eternal vigilance is the price of liberty, just so constant vigilance here is the price of freedom from disease, suffering and death of our loved ones. Disinfection means the destruction of the germs as they leave the body of the patient through the excretions before they turn into dust and infect the room. Disinfection is necessary of all that comes in contact with the patient; fingers, hands, attendant's clothing and the various objects that may have been in contact with him.

The room is the true battlefield. The fight must be made and won in it. Unless the air of the room is infected there is no risk of contagion. No details ever so small must be overlooked. The cheapest and the readiest reliable disinfectant is a 1 to 800 or 1 to 1000 solution of mercury bichlorid. It is made by dissolving three drams of mercury bichlorid with three drams of ammonium chlorid in a bucket of water (brimful). The patient's clothing and bedding should be changed at least once daily; twice daily is better. The clothing, bedding, etc., must not be shaken, but must be handled gently with care, so as not to shake the dust from them. They should be placed at once in the disinfecting solution, soaked thoroughly, then wrung lightly, enough to prevent dripping. They should be laid aside and allowed to stand wet two hours, then they can be sent to the wash without risk. The handkerchiefs, towels and rags used for cleansing and sponging the patient, or for any other purpose, must be treated likewise. The water used to sponge or wash the patient or to rinse the mouth must be mixed with one quart of the disinfecting solution, and allowed to stand two hours before being thrown away. The sputum must be disinfected with special care. It is best to use no spittoon, but a cup and keep it half full with the disinfecting solution. Let it stand five hours before throwing in the closet or the gutters. It is much better to use rags and burn them. The urine must be mixed with one quart of the disinfecting solution from the pail. It must stand five hours before being emptied into the closet. Stir up occasionally, specially before emptying. The liquid feces must be mixed with two quarts of the disinfecting solution if very liquid. Add in the bedpan the equivalent of one dram of mercury bichlorid and one dram of ammonium chlorid. Soft or solid feces should be burned. Build a small wood or charcoal fire in the yard, and when in full blaze throw the feces on it in small quantities at a time.

All vomited matter must be mixed with one quart of the disinfecting solution from the pail. Add in the vessel one dram of the bichlorid and one of chlorid of ammonium. Allow it to stand five hours before being emptied. The water used in washing anything about the room must be mixed with one or two quarts of the disinfecting solution and allowed to stand one hour before emptying. The glasses, plates and spoons used about the room must be disinfected every time they are used, by boiling for thirty minutes. The room must not be swept, but sprinkled and mopped with the disinfecting solution from the pail. The nurse's clothing must be also changed twice daily; all her clothes must be treated like the patient's clothes. The nurse must keep her hands aseptic all the time by washing them in the solution from the pail every time she touches the patient or soiled things; then she must rinse them in clear water to prevent the mercury from making the nails sore. The nurse or anyone else must never drink nor eat in the room, nor use any plate, glass, spoon, fork, knife, etc., which have been used by the patient. The nurse's hands should be frequently washed with carbolic soap and plain water. The disinfection of the patient after recovery must be done by being washed with a solution (tepid) of the disinfecting solution from the pail. Follow this by a wash with alcohol, or by bay rum or cologne water. The hair must be thoroughly washed with the disinfecting solution, then with alcohol or cologne water and then thoroughly dried. The corpse for burial should be wrapped up in a sheet, saturated with a solution of bichlorid of mercury from the pail. Add to the solution in the pail three ounces of the bichlorid and three of the ammonium. If all the details have been carried out, the disinfection of the room after the recovery (or even the death) of the patient is not absolutely necessary, but it is safer to do so.

Be particularly certain that no bedding, no clothes, etc., are removed from the room unless they have been thoroughly disinfected. Toys, books, etc., used by the patient must be burned. Formaldehyde from a Kuhn generator should be used in the sick room and adjoining rooms. When disinfection is not started within two days of the time the disease began, the disinfection of the room must be more thorough. Mattresses, quilts, heavy woolen articles, etc., must be burned. Carpets should be saturated with the disinfecting solution, dried, then swept, and again saturated. After the apartment and contents have been thoroughly fumigated, all the stuffed furniture should be dismantled and the stuffed fabrics, together with the mattresses, should be covered with sheets, taken into the yard and burned.

Special Remarks.—In cholera it is specially from the vomiting and evacuations that the disease is communicated. Therefore no one should drink or eat in the room. The same applies in typhoid fever. In plague, all little sores on the nurse's finger, etc., should be covered with plaster or collodion; all the rats, mice and vermin about the premises should be killed and burned. In diphtheria the germs are contained specially in the secretions from the mouth and nose. Therefore no one should eat or drink in the room. In smallpox, scarlet fever and measles, smear the patient's body with white vaselin as soon as the peeling is about to begin, so as to prevent its drying and turning to dust before it is destroyed by disinfection. As long as the least desquamation continues, the patient must not be discharged and the disinfection of the excretions, clothing and bedding must be kept up. In smallpox the scabs should be burned. Search the scalp of patients for scabs, remove them and disinfect the spot. Scarlet fever and measles, the peelings must be gathered with care and burned. Patients recovering from a contagious disease may communicate the disease as late as fifteen days after recovery. Therefore, continue all the disinfection of excretions, clothes, bedding for fifteen days after recovery.

Prevention of Spread in Houses of the Poor in Remote Localities.—When it is impossible to obtain the necessary chemicals, the next best is the following plan: Boil at once for thirty minutes the clothes, bedding, handkerchiefs, towels, rags, etc., in as large a kettle as can be obtained. Boil the sputum cup, plate, handkerchief, towel or rag, covering the kettle. Add one pint of water to the urine and boil, covering the kettle. Add one quart of water to the feces and boil, covering the kettle. Boil also the bedpan for thirty minutes after the urine and feces have been boiled, then rinse with clean water. As to the vomited matter, add one pint of water and boil, covering the kettle; boil the vessel which received the vomit. The water used in washing anything about the room must also be boiled, and the bucket that contained it be scalded inside and out. The glasses, plates, forks and spoons must be boiled thirty minutes, then rinsed with clean water. The mops must be boiled for thirty minutes. The water from the washing and moppings must be boiled also for thirty minutes. The bucket must be scalded inside and out. Bulky articles—blankets, quilts, mattresses—when partially soiled should be soaked thoroughly with boiling water for thirty minutes. Disinfect the hands by washing them in hot water, as hot as can be endured. After recovery wash the patient all over with hot water. The sheet for burial should be soaked in boiling water. To disinfect the room, wash the walls and furniture with boiling water.

Sanitation of Cities.—To prevent the spread, the prolongation and the return of contagious diseases, localities, cities specially, should be placed in the highest sanitary condition by the filling of lots, drainage, sewerage, asphalting of streets, Schillingering of banquettes, of yards, of spaces under houses, by planting trees; by a system of quick and thorough removal and dis-

posal of garbage; by sprinkling and sweeping streets; by an abundance of pure water and the abolition of cisterns and wells; by the inspection of milk, meat and all articles of food, liquid and solid; by regulating noxious trades and industries; by preventing the overcrowding of tenements and by inspecting the interior of premises to enforce proper condition of the plumbing and cleanliness. We shall add to this long list the destruction of mosquitoes, flies and of vermin of all kinds, since we are learning more and more the important role they play in spreading diseases. Another most important corollary factor of the discovery of germs as the cause of disease, is the certainty we all feel that in time, probably a short time, it will become easy to make a positive diagnosis by culture and inoculation, to make a positive cure by injecting antitoxins and to reliably protect the well by using the vaccine-viruses. All this would seem fanciful and fantastic did we not already possess it all for diphtheria. It is but a question of a few years when we will possess the same means of investigation and of action for all the other germ diseases.—*Edmond Souchon*, President Louisiana State Board of Health.

Book Notices.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume II. Illustrated by Numerous Chromolithographs and 765 Half-tone and Wood Engravings. Cloth. Pp. 838. Price, $7.00 per volume. New York: William Wood & Co. 1901.

The second volume of the new edition of Wood's "Reference Handbook of the Medical Sciences" bears out the promise of the first and is equally deserving of praise. Its appearance shows that it is practically a new work, a large proportion of the articles contained being entirely new, many others rewritten and all revised to bring them up to date. The articles are much more full and complete in many instances than in the earlier editions, and therefore more valuable as monographic statements of the facts. The subject of the brain alone takes in, in its various points of view, over one-third of the volume, a very large part of which is entirely new. The paper on cerebral anatomy by Prof. B. G. Wilder, which was included in the Appendix in the earlier series, here occupies its proper place and has been extensively revised. Among the new articles here of note may be mentioned those on Cephalocele by Dr. Fred. Peterson, on Cerebellar Disease by Dr. J. Fraenkel, Cerebrospinal Fluid by Dr. H. B. Ferris, the very elaborate Neuroses of the Cerebral Circulation and Histology by Drs. Browning and L. F. Barker, that on the Development and on the Growth of the Brain by Professors Herrick and Donaldson respectively, and that on the Functions of the Cerebral Cortex by Dr. L. Witmer. We should also add to that list the article on Methods of Removing, Preserving, Dissecting and Drawing the Brain by Prof. Wilder, which seems to be exhaustive, and that on the Surgery of the Brain by Dr. Keen, which is an authoritative statement of what may be regarded as the best surgical opinion on this important subject. These do not include all the new and notable contributions by any means, but enough has been said to show how fully and elaborately the subject has been treated. When we consider that a page in this volume is equal to two or three in an ordinary octavo or duodecimo, the compass of the treatment of the various subjects can be better appreciated. In the remainder of the volume we find a similar condition of things, a general revision, and where specially indicated a fuller treatment of the subjects. The subject of Cancer is handled by Dr. W. B. Coley, but in addition we have papers on Carcinoma by Dr. Councilman and on Skin Carcinoma by Dr. J. A. Fordyce. There are other articles noteworthy for length and fulness of treatment, but enough has been said to give an idea of the work. It should be added that the illustrations are very numerous and well selected and include a very large number that are entirely new. The volume is one of the most valuable of a valuable series.

MOSQUITOES: HOW THEY LIVE; HOW THEY CARRY DISEASE; HOW THEY ARE CLASSIFIED; HOW THEY MAY BE DESTROYED. By L. O. Howard, Ph.D., Department of Agriculture, Washington, D. C. Cloth. Pp. 241. Price, $1.50. New York: McClure, Phillips & Co. 1901.

No more timely work has appeared in a long time than this one on mosquitoes. Owing to the discovery of the relation of the mosquito to malarial and yellow fever, there has developed an interest in these little pests that would have been incredible a few years ago. While this interest is manifested among laymen to a degree, it is especially so among physicians, and, as the author states in his preface, they will not be satisfied with half knowledge, but want to know the whole mosquito story. Dr. Howard's special work in the Department of Agriculture has well fitted him to tell this story, and he has told it in a straightforward manner. While it is technical and scientific, it is told in a way simple enough to be comprehended by all, for the book is intended for lay readers as well as for physicians. The subject is considered from the biological, from the medical and from the practical sides. We are told how the different kinds of mosquitoes may be distinguished, how to collect them and rear them for the purpose of study, and especial effort is made to indicate the character, habits and breeding places of those forms of mosquitoes which spread malarial and yellow fever. Directions are given for destroying the pests. In fact, as the title indicates, the author tells us all about mosquitoes, how they live, how they carry disease, how they are classified and how they may be destroyed. It is a book for the physician who desires to post himself on one of the important etiological factors in the spread of disease. The author deserves the thanks of the medical profession for his effort.

DISEASES OF THE THYROID GLAND AND THEIR SURGICAL TREATMENT. By James Berry, B. S. Lond., F.R.C.S., Surgeon to the Royal Free Hospital and Lecturer on Surgery at the London (Royal Free Hospital) School of Medicine for Women. Cloth. Pp. 367. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1901.

This is a book that is to be commended for the thoroughness and painstaking efforts of the author. The various affections are gone through in considerable detail. The references to the literature are quite complete and, in addition, there is an appended alphabetical index of the authors referred to in the text. While the author necessarily has drawn largely from the literature in the preparation of the volume, he has been careful to select and utilize that material only which seems to him to be the best. It must not be inferred from this that the book is a mere compilation. Originality is shown in every chapter. A detailed report of 100 operated cases in the author's own practice is especially interesting. Citation and histories of other interesting cases are well and plainly set forth. The chapter on "Dyspnea caused by goitre" is especially good. Attention should also be called to the various chapters on "Treatment." The book itself, as regards the make-up, has good type, and is attractive, neat, well indexed, and worth careful study.

CLINICAL LECTURES ON STRICTURE OF THE URETHRA AND ENLARGEMENT OF THE PROSTATE. By P. J. Freyer, M.A., M.D., M.Ch., Surgeon to St. Peter's Hospital. Cloth. Pp. 115. Price, $1.50. New York: William Wood & Co. 1901.

These lectures were delivered at the Medical Graduate College and Policlinic and published in the *Lancet* and *Clinical Journal*. They contain a résumé of the present knowledge of the subject dealt with.

THE HYGIENE OF TRANSMISSIBLE DISEASES: THEIR CAUSATION, MODES OF DISSEMINATION AND METHODS OF PREVENTION. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, University of Pennsylvania. *Third Edition, Revised and Enlarged.* Octavo, 351 pages, with numerous illustrations. Philadelphia and London: W. B. Saunders & Co. Cloth. Price, $2.50 net.

The author has taken advantage of the necessity for a second edition to revise certain parts of his book, and to add to many subjects. This especially applies to the articles on malaria, yellow fever, plague, filariasis, dysentery and tuberculosis. The original plan has not been altered.

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ESSENTIALS OF REFRACTION AND OF DISEASES OF THE EYE. By Edward Jackson, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. Third Edition, Revised and Enlarged. 12mo, 261 pages, 82 illustrations. Cloth, $1.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

This little compend is constructed on the principle of question and answer, and is equal to any in the series. Thereto are added the tests of vision required in the Navy, Army and railway services and in the public schools. The substances that cause "amblyopia ex abusa" are individually considered; the author's Latin, however, needs correction.

Married.

W. C. HESS, M.D., Yale, Iowa, to Miss Sarah Carr, Bagley, Iowa, June 12.

N. F. TILTON, M.D., Marysville, Ohio, to Miss Mabel Dolen, Stanton, Va., March 31.

WALTER A. GRESHAM, M.D., to Miss Mattie Wilson, both of Russelville, Tenn., June 24.

W. A. HARRIS, M.D., to Miss Dora Crismond, both of Spottsylvania C. H., Va., July 3.

JOHN T. DAVIS, M.D., Shawnee, Ohio, to Miss Bertha Bevelheimer, Columbus, Ohio, June 2.

FRANK W. BURNS, M.D., Stewartville, Minn., to Miss Mabel Knapp, Rochester, Minn., June 28.

L. W. STUDLEY, M.D., Beatrice, Neb., to Miss Josephine Mutton, Grand Island, Neb., June 26.

Deaths and Obituaries.

John Curwen, M.D., University of Pennsylvania, Philadelphia, 1844, died July 2, at Harrisburg, Pa., aged 80. He was for fifty years prominently identified with the care and treatment of the insane, assisting in the establishment of the State Hospital for the Insane at Warren, Pa., in 1880, and from that time until his retirement, June, 1900, continuing as superintendent of that institution. The Dauphin County (Pa.) Medical Society met and attended the funeral of their late fellow-member in a body.

James H. P. Wise, M.D., New Orleans School of Medicine, (now extinct), 1869, died at his home in Morgan City, La., July 10, aged 56. He was born in Northampton, Mass., and went to Louisiana with the 20th New York Volunteer Cavalry. He first served at the Marine Hospital in New Orleans, and afterward as surgeon of the 1st U. S. Cavalry. He moved to Morgan City in 1880 and was mayor for ten years, also collector of the port, quarantine officer, and president of the board of trade.

Samuel G. Crawford, M.D., Kentucky School of Medicine, Louisville, 1880, mayor of Sedalia, Mo., died recently from paralysis, aged 63. He was surgeon major of the 7th Illinois Cavalry in the civil war, and during the Spanish-American war was regimental surgeon of the 2d Missouri Volunteers.

Tabor B. Reynolds, M.D., Albany Medical College, Albany, 1842, of Saratoga Springs, N. Y., died suddenly July 3, aged 81. He was an ex-member of the assembly, an ex-sheriff, a founder of the New York State Medical Association, and a member of the American Medical Association.

Henry G. Wagoner, M.D., University of Pennsylvania, Philadelphia, 1853, died July 2, at his home in Somerset, N. J., from heat prostration. He was president of the medical staff of Somerset Hospital and also a former lay judge of the county court. He was 78 years of age.

Oliver C. Williams, M.D., a pioneer physician of Muskegon, Mich., died at his home July 8, after a brief illness. He was a soldier in the 27th Michigan Cavalry during the civil war, and had been both city and county physician. He was 65 years of age.

Benjamin F. Hastings, M.D., New York University, New York, 1861, who was surgeon of the 18th Massachusetts Volunteers in the civil war, died at a hospital in Boston, where he had been undergoing treatment. He was 65 years of age.

John D. Pitablo, M.D., University of Minnesota, Minneapolis, 1896, who has been the quarantine physician for Minneapolis since Jan. 1, 1901, died July 3, as the result of an overdose of a self-administered opiate.

Robert H. Honner, M.D., Western University Medical Department, London, Ont., 1889, died in Detroit, Mich., July 3, after an illness of five days. He was a member of the faculty of the Michigan College of Medicine.

J. William Stokes, M.D., Vanderbilt University, Nashville, died at his home in Orangeburg, S. C., July 6, after a long illness. He was representative of the Seventh Congressional District of South Carolina.

Leslie M. Hoyt, M.D., Rush Medical College, Chicago, 1883, died July 3, in Augustana Hospital, Chicago, as a result of injuries received while on a vacation in Wisconsin. He was 42 years of age.

Edgar C. Hays, M.D., Washington University, St. Louis, 1868, who served in the ranks through the civil war, died July 8, at Hannibal, Mo., aged 60, after an illness of nine months.

Myron S. Brown, M.D., University of Nashville, Nashville, 1863, died at his home in Danville, Ill., aged 69. He was in the civil war, serving as assistant surgeon, in the 25th Illinois.

George Hay, M.D., University of Pennsylvania, Philadelphia, who devoted much of his time to a study of chemistry and metallurgy, died in Pittsburg, Pa., July 4, aged 64.

James H. Conway, M.D., New York University, New York, 1881, died very suddenly while on a brief vacation near his home in Woburn, Mass., aged 49.

James T. Young, M.D., Bellevue Hospital Medical College, New York, 1864, for the past year an invalid, died at his home in Washington, D. C., on July 3.

Johnson J. Bennett, M.D., University of Vermont Medical Department, 1889, died suddenly while driving from his home, Fenton, Iowa, to a nearby town.

Frank A. Jelleker, M.D., Bellevue Medical College, New York, 1892, died at a hotel in New York City from heat prostration, July 3, aged 32.

John Watts, M.D., Medical College of Ohio, Cincinnati, 1880, died at his home in Lafayette, Oregon, July 6. He was a presidential elector in 1876.

William R. Krissinger, M.D., Baltimore Medical College, Baltimore, 1878, was found dead in his bed on the morning of July 4, at Shanksville, Pa.

B. F. Hyatt, M.D., Starling Medical College, Columbus, O., 1869, died July 2, at his home in Ottumwa, Iowa, from peritonitis, aged 64.

Henry M. Revell, M.D., University of Maryland, Baltimore, 1876, died at Annapolis, Md., July 2, of typhoid fever, aged 46.

Martin H. Williams, M.D., Jefferson Medical College, Philadelphia, 1887, died suddenly at his home in Philadelphia, aged 39.

Thomas L. Taylor, M.D., Medical College of Virginia, Richmond, 1874, died July 2, at his home near Leedstown, Va., aged 67.

James Houston, M.D., Anderson College of Medicine, Scotland, died at his residence in Lawrence, Mass., from apoplexy, aged 51.

John W. Wilson, M.D., Jefferson Medical College, Philadelphia, 1851, died suddenly at his home in Chatham, Va., aged 75.

William H. Burritt, M.D., College of Physicians and Surgeons, Keokuk, 1873, died on July 2, at his home in Toledo, O., aged 59.

W. W. Hays, M.D., Georgetown University, Georgetown, D.C., 1861, died suddenly at San Luis Obispo, Cal., on July 3.

Laurence S. Smith, M.D., New York University, 1872, died at Haverhill, Mass., from a hemorrhage, aged 49.

John M. Brown, M.D., University of Buffalo, Buffalo, 1864, died July 3 at his home in Altmar, N. Y., aged 87.

John G. Lumpkin, M.D., Medical College of Virginia, Richmond, 1851, died at Richmond, Va., aged 71.

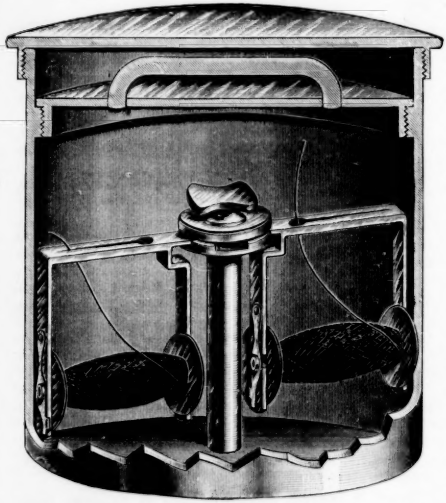
Aaron N. Braman, M.D., University of Buffalo, 1851, died suddenly at his home in Rochester, N.Y.

New Instrument.

A NEW CARRIER FOR SUTURE MATERIAL.

AUGUST SCHACHNER, M.D.
PROFESSOR OF SURGERY, LOUISVILLE MEDICAL COLLEGE.
LOUISVILLE, KY.

The ligature reel herein described was designed to replace the glass containers, which are generally considered the most aseptic arrangement at present at our disposal. This reel has all the advantages that apply to the glass arrangement and some additional ones, namely, being of metal it insures against breakage and thus is never exposed to the danger of an accident to the ligature outfit. The durability of the metal box is also greater than that of a glass one. It is true that a glass box has a slight advantage over the metal one in appearance, and for that reason the glass container may still receive the preference in hospitals.



Interior construction of reel. Two spools removed. Of the remaining spools one represents the catgut in the act of being unreeled, the other represents the catgut hooked into the slot.

It is in portability that the metal ligature outfit comes in for its full measure of advantage over its rival, the glass outfit. When we are obliged to operate away from hospitals where we can not always judge the amount and character of suture material that might be called for, we feel the need of an outfit that is practical in every sense, namely, portable, without danger of breakage and liberal supply of all possible material.

This reel will be advantageous in military surgery where a large amount of material can be safely carried.

Description.—The reel can be constructed in different sizes. The most convenient for ordinary purposes is a cylindrical box three and a half inches in circumference and three and a half in length. The box is supplied with a double cover to insure the greatest protection to its contents. The outside cover overlaps the case; the inside cover screws itself into security by means of threads cut into a strip that is soldered in the inside of the case about three-quarters of an inch from the top. The edge of the inside cover is supplied with a narrow flange. When this cover is screwed into position this flange rests upon the strip and thereby doubly sealing the interior. The space between the covers measures half an inch. From the bottom of the case arises a stationary upright rod. This rod is flared out at the top so as to present a circular surface about three-quarters of an inch in diameter. From the center of this surface arises a short screw, and radiating in a crucial manner from the base of this screw are found square excavations to receive the ends of the frames that hold the spools. These frames are held in position, 1, by accurately fitting into the square excavation; 2, by being supplied with a small peg which fits into an aperture near the edge of the square excavation; 3, by being held in this square excavation by the impingement from above. This screw arising from the center of the disc surmounting the upright pole receives its mate, a form of thumbscrew, the bottom of which is flared out to correspond to the flared-out top of the central pole. From this, it is apparent that the purchase gained by this arrangement is similar to a vise in its method but far more effective in its mechanism. The frame that holds the reels are thus firmly held in position without the possibility of any wabble in any direction.

The spools slip into the slots with which the square frames are supplied. The spools are held in the slots by a very simple slide which when in position closes the opening of the slot and prevents the release of the spool.

In unreeling the material (catgut or silk) it is drawn through a V-shaped opening. The base of this opening is rounded, giving the effect of a circular aperture while the apex is drawn to a very slender point. While unreeling it is drawn through the rounded base and when a sufficient amount has been obtained it is drawn into the slender apex, where it is caught and prevented from failing away.

Societies.

Chickasaw (I. T.) Medical Association.—At the regular meeting held in Roff, Dr. Thomas S. Booth, Ardmore, was elected president, and Dr. Chivers, Ardmore, secretary.

The Fifth International Congress of Criminal Anthropology.—Professor Wertheim-Salmonson, of Amsterdam, is the general secretary of this Congress, which is to meet at Amsterdam, September 9.

Cumberland County (N. C.) Medical Society.—At the recent meeting of this Society at Fayetteville, Dr. Jacob F. Highsmith was elected president; Dr. Thomas D. Haight, vice-president, and Dr. John D. MacRae, secretary and treasurer.

Perry County (Ohio) Medical Society.—At the annual meeting of this Society, held in New Lexington, June 27, Dr. B. F. Callinan was elected president, Dr. B. A. Thomas, vice-president, and Dr. John G. McDougal, secretary and treasurer.

Dallas (Texas) Medical and Surgical Society.—At the recent meeting of this Society Dr. Edwin J. Reeves was elected president; Drs. Frank J. Hall and Elbert Dunlap, vice-presidents; Dr. Emil R. Aronson, secretary, and Dr. J. Wilbur Bourland, treasurer.

Williamson County (Tex.) Medical Society.—This Society was organized June 28, at a meeting held in Georgetown. The following officers were elected: President, Dr. George W. Foster; vice-presidents, Drs. J. C. Anderson and W. P. Masterson; secretary and treasurer, Dr. E. M. Thomas.

Utah County Medical Society.—At the regular annual meeting of this Society, held at Provo, Utah, June 26, the following officers were elected: Dr. George L. Smart, Springville, president; Dr. Samuel H. Allen, Provo, vice-president; and Dr. John H. Slater, Spanish Fork, secretary and treasurer.

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Somerset County (Maine) Medical Association.—At the thirty-seventh annual meeting of this Association, held at Skowhegan, June 27, Dr. Elba C. Andrews, North Anson, was elected president; Dr. Warren G. Sawyer, Madison, vice-president; Dr. Howard C. Taggart, Skowhegan, secretary and treasurer, and for the board of censors, Drs. T. M. Griffin, Pittsfield, and L. D. Rand, Fairfield.

Elkhart County (Ind.) Medical Association.—At the meeting of this Association June 27, the following officers were elected: Dr. Charles M. Eisenbliss, Elkhart, president; Dr. Fred N. Dewey, Elkhart, vice-president; Dr. Chester W. Merrill, Goshen, secretary and treasurer, and Drs. Herbert O. Statler and Daniel L. Miller, Goshen, censors.

Upper Peninsula Medical Society.—The sixth annual meeting of this Society was held at Menominee, July 5-6, and Dr. Walter R. Hicks, Menominee, was elected president; Dr. Albert B. Simonson, Calumet, vice-president, and Dr. Samuel E. Cruse, Iron Mountain, secretary and treasurer. Ishpeming was chosen as the next place of meeting.

Rutland County (Vt.) Medical and Surgical Society.—This Society held its twenty-fifth annual meeting at Rutland, on July 2, and elected the following officers: President, Dr. William N. Bryant, Ludlow; vice-president, Dr. James M. Hamilton, Rutland; secretary, Dr. George Rustedt, Rutland, and treasurer, Dr. Edwin R. Clark, Castleton.

Sioux Valley Medical Society.—The regular semi-annual meeting of this Society was held in Sioux City, Iowa, beginning June 14 and ending June 28. It was decided that the Society should have an official journal in which its proceedings should be published. Dr. Gilbert G. Cottam, Rock Rapids, Iowa, was elected president; Drs. Frank A. Swezey, Wakonda, S. D., and F. E. Walker, Worthington, Minn., vice-presidents; Dr. Maxwell E. Silver, Sioux City, secretary; Dr. S. A. Brown, Sioux Falls, S. D., treasurer, and Drs. E. R. Buck, Hudson, S. D., C. C. May, Adrian, Minn., and Geo. C. Rubel, Allen, Neb., as the board of censors. The next meeting will be held at Cherokee, Iowa, in January.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Burns.

INQUIRY: Please state what is meant by a burn of first, second and third degree, with treatment. H. H.

Burns are, for convenience, divided into three classes:

A burn of the first degree is one that produces redness of the skin without the formation of vesicles. The skin becomes a source of sensation of heat and burning. Burns ordinarily due to exposure to the sun's rays would come in this class.

In the second class, the skin must be exposed to a higher temperature and for a longer time and yet not sufficiently strong to destroy the texture of the integument. In this class vesicles are formed, after exposure for a few hours. These vesicles may be coalescent or discrete and when punctured, serum flows out.

In burns of the third degree the heat, in whatever manner applied, must produce a destructive effect upon the skin. The blood and lymph vessels are destroyed and a condition of gangrene is produced, and within a few days a ring of demarcation is formed, indicating the amount of skin destroyed. Consequently suppuration and sloughing take place, followed by granulations and formation of scar tissue.

Burns of the first class are usually treated by applying some sedative lotion. The following is of service:

℞ Aquæ calcis
Olei olivæ, āā ..... ʒi 32
M. Sig.: Apply on borated gauze.

Any application that will exclude the air is of service in relieving the itching and burning pain.

For the second grade, a great many dressings may be used, such as carbolized vaselin, ointments containing a large amount of boric acid, mild alkaline lotions, and when the blebs are very large, they may be punctured with an antiseptic needle, followed by the application of an antiseptic dusting powder, such as boric acid or subnitrate of bismuth. In order to exclude the air the following is recommended in the milder form:

℞ Acidi salicylici ..... gr. xv 1
Collodion (flexible) ..... ʒi 32
M. Sig.: Apply locally on antiseptic cotton.

In the third grade, the danger of infection and consequent suppuration must not be overlooked. The antiseptic powders are of great service, such as iodoform, europhen and boric acid. Kaposi and Hebra give preference to continuous immersion of the part in water at a temperature most soothing to the skin.

Treatment of Dysentery by Lavage.

Dr. W. L. Braddon, as noted in *Jour. of Tropical Medicine*, offers the following conclusions, arrived at by the treatment of 170 cases: 1, that lavage or irrigation of the colon is the best method of treating dysentery; 2, the irrigation, to be effective, should be copious and frequent; 3, the most useful solution is one composed of a weak solution of boracic acid; 4, the use of astringents and antiseptics such as bismuth, Dover's powder and salol, is beneficial along with the flushings.

Treatment of Eczema.

The following is recommended by Brownlie, of Edinburgh, in treatment of eczema:

℞ Ichthyol ..... ʒss 2
Bismuthi subnitratis
Amyli, āā ..... ʒii 8
Zinci oxidi ..... ʒi 4
Petrolati q. s. ad ..... ʒii 64
M. Sig.: Apply locally once daily.

In cases of eczema occurring on the arms and legs he applied the following:

℞ Resorcin ..... gr. x 66
Hydrarg. ammoniati ..... gr. x 66
Ichthyol ..... ʒi 4
Zinci oxidi ..... ʒii 8
Vaselini ..... ʒvi 24
Lanolini q. s. ad ..... ʒii 64
M. Sig.: Apply locally twice a day.

Prof. L. D. Bulkley states that sometimes gelatin-glycerin preparations are of use in the treatment of eczema by forming a firm adherent coating on the part. The following is advised in certain conditions:

℞ Gum tragacanthæ ..... ʒiiss 10
Gelatin ..... ʒii 8
Glycerini ..... ʒvi 24
Thymol ..... gr. 1/4 015
Aq. destil., q. s.
M. Soak the tragacanth and gelatin each in 10 oz. of water over a steam bath for twenty-four hours, strain and add water to 12 oz., then add the additional preparations.

Antisepsis in Gastro-Intestinal Disturbances.

Hare states that the most rational method of antisepsis is abstinence from food, followed by a diet of boiled or sterilized milk in small quantities. As an intestinal antiseptic he recommends the following:

℞ Benzo-naphthol ..... gr. ii 12
Bismuthi salicylatis ..... gr. v 30
Resorcin ..... gr. ii 12
M. Ft. chart. No. i. Sig.: One such powder every three hours.

For antiseptic irrigation he recommends one of the following in the strength indicated:

Acidi borici	ʒii to Oi	8. to 512
Creolin	gr. vi to Oi	.25 to 512
Thymol	gr. vi to Oi	.25 to 512
Acidi tannici	gr. xxx to Oi	2. to 512
Acidi salicylici	gr. xv to Oi	1. to 512

The irrigations should be continued twice daily. If the number of stools should lessen or decrease in putridity and in the amount of mucus, the intervals between the irrigations should be lengthened.

Summer Diarrhea of Children.

In the treatment of diarrhea in infancy, the bowels should be emptied as thoroughly as possible. This can best be done by small doses of mild chlorid of mercury oft repeated, or by administering oleum ricini. It is advisable also to irrigate the lower bowel with a normal salt solution. The use of opiates should be avoided. To allay the irritation and to render the intestinal canal aseptic some one of the following prescriptions will render good service:

R.	Bismuthi subnitratis ..... ʒi	4
	Misturæ cretæ ..... ℥ii	64

M. Sig.: Shake; one teaspoonful every three or four hours.

The above combination is used when the stools are frequent, watery and sour smelling. The following powder is of great value to produce astringent effect:

R.	Tannalbin ..... ʒi	4
	Ichthoform ..... ʒss	2
	Bismuthi subgallati ..... ʒss	2

M. Ft. chartulæ No. xv. Sig.: One powder every four hours.

In the diarrhea of adults preparations of opium may be used where pain is present. The following is of service as a sedative and astringent:

R.	Tannopin ..... ʒiss	6
	Pulv. opii ..... gr. vi	36
	Salol ..... gr. xlviii	2 75
	Bismuthi subnitratis ..... ʒiss	6

M. Ft. chart. No. xii. Sig.: One powder every four hours until diarrhea is checked.

Where there is marked disturbances of the stomach, lavage is of undoubted benefit. In infants, of course, this must be accomplished by using the proper sized tube or catheter. In adults the ordinary stomach tube should be introduced and the stomach washed out thoroughly. Sometimes one of the following antiseptic solutions can be advantageously used:

R.	Sodii boratis ..... ʒii	8
	Creolin ..... m. v	30
	Thymol. ..... gr. ii	12

M. Sig. Use in a quart of warm water once daily, first washing the stomach out with plain water.

Or:

R.	Acidi borici	
	Sodii boratis, ãã ..... ʒss	16
	Acidi salicylici ..... ʒi	4

M. Sig.: One or two teaspoonfuls to be added to a quart of warm water for lavage.

Gastric Ulcer.

Sir Lauder Brunton, in *Amer. Med.*, states that he can stop the pain in a large percentage of cases by the administration of sodium bicarbonate. He instructs the patient to dissolve one teaspoonful of the soda and slowly sip the solution until it is gone. He thinks it better to dissolve the soda in lime water, flavoring it with some of the mint waters. His reason for using lime water is that the sodium bicarbonate in plain water might soften the tissues to a great degree and thus predispose to hemorrhage. To lessen the constipation caused by the lime, fluid magnesia may be given in conjunction with the soda.

R.	Spts. menthæ pip. ..... ʒiss	6
	Cretæ prep. ..... ʒss	2
	Mag. carb. calcined	
	Sod. bicarb., ãã ..... ʒi	4

M. Sig.: One teaspoonful should be stirred in half a tumbler of water and slowly sipped until the pain is relieved.

Hot Alkaline Douches in Inflammatory Diseases of the Uterus.

Talley, as stated in *Mod. Med.*, obtains very satisfactory results from the employment of the hot alkaline douche in both acute and chronic inflammatory diseases of the uterus. The solution used is sodium bicarbonate, one dram to a quart of water. The temperature ranges from 110 to 120 F., beginning with the former temperature and gradually increasing it. The douche should be continued until the parts become blanched.

Medicolegal.

Impairment of Eyesight as a Total Disability.—The eyesight of a brakeman on a railway became so much impaired that he was discharged from his position, because of unfitness to longer properly perform the services required. He was at the time carrying a form of insurance which entitled him to an indemnity for a total disability defined to include the loss of the sight of both eyes or a disability of such a nature as to totally and permanently incapacitate him from the performance of duty in any department of the train or yard service. To prove that he was entitled to the indemnity, he introduced in evidence the rules of the railway company for which he worked as to physical examinations, which were the rules applied to him, and introduced evidence to show that many other roads required physical examinations. In permitting him to introduce in evidence the rules of that company, the Supreme Court of Iowa holds, Lillie vs. Brotherhood of Railway Trainmen, was no error. Nor was the court impressed favorably with the contention that, in order to recover the indemnity, he must first show by substantive proof that there was no railroad anywhere which would employ him in its train or yard service. On the contrary, it thinks that he made a prima facie case when he proved that the railway company for which he worked, as a measure of safety to him and others, discharged him on account of his disability. Indeed, it holds that the evidence offered to show his disability and its character was not only admissible but sufficient. It was shown that his eyesight was so impaired that he could not see signals at a reasonable distance, or distinguish colors, and the court says that, manifestly, these are deficiencies fatal to efficient service about moving trains. Again, it declares that, while no road could make an arbitrary rule, without foundation in reason, fixing a requirement for service that would affect the insurer's contract, yet such a disability as this, every-day experience teaches, would necessarily destroy one's ability to perform yard or train duties.

Can Collect Bill Without Recording Certificate.—Section 2624 of the General Statutes of Colorado reads: "Every person holding a certificate from the state board of medical examiners should have it recorded in the office of the clerk of the county in which he resides, and the record shall be endorsed thereon. Any person removing to another county to practice, shall procure an endorsement to that effect on the certificate from the county clerk, and shall record the certificate in like manner in the county to which he removes; and the holder of a certificate shall pay to the county clerk a fee of $1 for making the record." It will be observed that the section, if mandatory at all, the Court of Appeals of Colorado says, in Riley vs. Collins, is such only to the extent of requiring a record in the county where the physician resides. Then, even conceding that the certificate must be recorded there before services are rendered in order to entitle a physician to recover for same, the court points out that a want of compliance with this requirement would not appear simply from the fact that the certificate was not recorded in the county in which the services were rendered. It must further appear that the physician resided in that county; and this would be a matter of defense, properly to be established by the party sued, if it could avail at all. The most strained construction of the statute, the court continues, would nowhere indicate an intent on the part of the legislature to require a physician, if called into a county other than that of his regular residence, to first file in such county, and have recorded, his certificate or license, before he would be authorized to attend a case, or be permitted to recover for his services rendered. Such a construction, the court declares, would be absurd. Nor does it believe that the statute will bear being construed to make the recording of the certificate in the county of residence a condition to maintaining an action for services. The recording of the certificate, it says, is probably a reasonable requirement, so that the public might have an opportunity of ascer-

taining from an examination of the public records who were licensed to practice, and could also see whether the certificate was issued upon a diploma of a college—and, if so, of what college—or upon examination, or by reason of practice for a term of years. But, in the absence of a provision that this must be done before the holder of the certificate could practice, or could recover for services rendered, the court feels that it would be an unwarranted construction to so hold. The party who employs a physician is not wronged nor imposed upon by the failure to file if the physician holds the required certificate of qualifications. The authorities cited in support of a contrary view were based, so far as the court can ascertain from the opinions in the cases, upon statutes essentially different from that here under consideration, of which another section (2628) plainly says that the issuance of the certificate by the state board "shall be conclusive as to the rights of the lawful holder of the same to practice medicine in this state."

Negligence of Clerk Filling Prescription—Privilege.—The Supreme Court of Iowa has affirmed, in the case of Burgess vs. the Sims Drug Company, a judgment for $900 damages caused by alleged negligence in the filling of a prescription. The party who brought the action claimed that his eye was injured by lime falling into it while he was at work at his trade as a plasterer, and that the application to it of a preparation secured from the druggists sued, on a prescription, so aggravated the injury that its removal was necessary. The druggists contended that, having employed a skilful, registered pharmacist, they were not liable for his negligence, if any there was, in filling the prescription. Among the cases which they cited as illustrations were some in which it has been held that a railroad company contracting with an employe to furnish surgical aid in case of accident was not liable for the negligent acts of the surgeon thus selected and furnished, if due care and diligence were used in the selection. Those cases, however, the court does not think analogous. It says that it was the duty of the railroad company by express contract to secure for the other party professional services, which the railroad company did not hold itself out as competent to perform. The railroad company did not pretend to be a surgeon. But the parties here sued did pretend to be druggists, and held themselves out as able and willing to fill prescriptions. Whether they performed the services individually or by the aid of an employe was immaterial. The master who undertakes to perform a service is liable for the negligence of his servant in performing the service undertaken. True, the legislature has provided, as a police regulation for the protection of the public, that no one who is not a registered pharmacist shall fill prescriptions. But when these druggists undertook, as a part of their regular business, that the prescription should be filled, it was wholly immaterial to the customer, so far as their liability was concerned, the court holds, whether the prescription was filled by one of them or by an employe. In other words, it holds that they were not relieved of their responsibility as employers by the fact that they were required by statute to employ a registered pharmacist. The court also says in this case that it thinks there is no question but that the patient is privileged, under section 4608 of the Iowa Code, from disclosing communications made to his physician, although the statute does not so expressly provide. That is to say, it has no doubt that the statute was intended to extend to communications between patient and physician the same complete protection, not only as to physicians, but also as to the patient, which by common law was recognized in regard to communications between client and attorney. Moreover, while the patient may waive his privilege by himself testifying as to the subject-matter of the privileged communication, the court holds that for his testimony to constitute a waiver it must be voluntarily given. Therefore, testimony given on cross-examination will not have the effect of a waiver, although he might refuse to answer on cross-examination when asked with reference to a privileged communication, and did not refuse. Then, too, the court holds that any waiver resulting from the giving or introduction of testimony on a trial should be limited to that trial. Nor does it regard a communication made by the patient to a third party a waiver of privilege, when the matter comes up in court.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), July 6.

1 *Experimental Yellow Fever. Walter Reed, James Carroll and A. Agramonte.
2 *A Medicolegal Aspect of Tuberculous Joint Disease. H. Augustus Wilson.
3 Three Distinct Consequences of Myocardian Degeneration Following Coronary Arteriosclerosis, Illustrated by Typical Cases. A. P. Ohlmacher.
4 Occlusion of the Vena Cava from Compression. Diffuse Cancer, Chiefly Abdominal. R. T. Edes.
5 *A Brief Note on Aspergillus Keratitis. James Moores Ball.
6 *The Therapeutic Value of Adrenalin Chlorid. Dudley S. Reynolds.
7 *Pilocarpin Hydrochlorate and Its Uses in Croup. S. E. Wertman.

Philadelphia Medical Journal, July 6.

8 Eye and Ear Examinations of Railroad Employees. Wm. Thomson.
9 *Dystocia from Coiling or Occlusion of the Umbilical Cord. Edward P. Davis.
10 *Empyema of the Frontal and Ethmoidal Sinuses and Orbital Abscess. Thomas R. Pooley.
11 *Spinal Anesthesia. Angus McLean.
12 *Report of a Lipoma Removed from the Cheek Under Medullary Narcosis. A. W. Morton.
13 *The Recognition of Early Symptoms Indicating Dangerous Forms of Insanity. W. K. Walker.

Medical News (N.Y.), July 6.

14 Practical Notes Relative to Rabies. N. G. Keirle.
15 *Actinotherapy in Cutaneous Medicine: A Preliminary Communication. William S. Gottheil.
16 *Ideals in Physical Education. D. A. Sargent.
17 The Early Operative Treatment of Acute Mastoid Inflammation. Edward B. Dench.
18 Salient Points in an Epidemic of Typhoid Fever, Based upon Fifty-five Cases. Wm. J. Crittenden.
19 *A Case of Lobar Pneumonia with Hyperpyrexia; Recovery. Wm. R. Williams.

New York Medical Journal, July 6.

20 *Chronic Fluorin Poisoning. Fritz Schwyzer.
21 *The Limitation of Drug Therapy. Robert H. Babcock.
22 *Remarks on Appendicular Abscess. Ramon Guiteras.
23 *An Improved Form of Ambulance Would Increase the Value of the Treatment of Heat Prostrations. Frederick Griffith.
24 *Porto Rico: Its Climate and Its Diseases. C. H. Alden.

Medical Record (N.Y.), July 6.

25 *Observations in China and the Tropics on the Army Ration and the Post Exchange or Canteen. Louis L. Seamaff.
26 *The Place of Cereals in Infant Feeding. Henry D. Chapin.
27 *The Value of Local Sanatoria in the Combat of Tuberculosis in Large Centers of Population. S. A. Knopf.
28 *Observations and Remarks on Removal of the Gasserian Ganglion in the Cadaver. Robert F. Amyx.
29 Primary Carcinoma of the Tip of the Appendix; Primary Epithelioma of the Sphincter Muscle of the Bladder. J. Riddle Goffe.

Boston Medical and Surgical Journal, July 4.

30 *Medical Prospects. George E. Francis.
31 A City Isolation Hospital. May S. Holmes.
32 Report of a Case of Porro-Cesarean Section for Placenta Previa Centralis. W. J. Gillette.
33 Forced Flexion and Adduction in Cases of Extreme Sensitiveness of the Hip-Joint. E. H. Bradford.

Cincinnati Lancet-Clinic, July 6.

34 *Anal Pockets. Louis J. Krouse.
35 Lithemia. F. W. Gavin.

St. Louis Medical Review, July 6.

36 *Nephropexy: The Operation. W. B. Dorsett.
37 *Unusual Dosage of Diphtheria Antitoxin. H. L. Nietert.
38 *A Consideration of Some Methods of Treating Epilepsy. W. J. Alexander.

Northwestern Lancet (Minneapolis), July 1.

39 Ringworm. F. M. Archibald.
40 Complications of Diphtheria. H. K. Read.
41 Internal Medicine from the Surgeon's Standpoint. A. W. Abbott.

American Journal of Obstetrics (N. Y.), June.

42 *The Prevention of Post-Operative Adhesions of the Peritoneum. George Gray Ward, Jr.
43 *Intrapelvic Intravaginal Perineorrhaphy Without Loss of Tissue. A. Goldspohn.
44 *The Alum Enema in the After-Treatment of Abdominal Operations. Virgil O. Hardon.
45 Report of a Cesarean Section in a Case of Obliquely Contracted Pelvis. W. Reynolds Wilson.

46 Clinical Memoranda: 1. Partial Hysterectomy for Puerperal Sepsis. 2. Ovariectomy Complicated by Aneurysm of the Aorta. 3. The Repair of Lacerated Cervices After Labor. B. C. Hirst.
47 The Technique of Nephro-Ureterectomy. J. F. Baldwin.
48 Remarkable Condition of the Kidneys in a Woman Dead from Eclampsia Parturientium. Henry J. Kreutzmann.
49 Dermoid and Other Cysts of the Ovary: Their Origin from the Wolffian Body. Samuel W. Bandler.
50 An Improved Sims Speculum. B. Curtis Miller.
51 Amputation of the Thigh for Advanced Tuberculosis of the Knee-Joint: Osteomyelitis Involving the Superior Maxilla; Gonorrheal Synovitis of the Knee-Joint: Tubercular Coxitis. N. Senn.
52 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Annals of Surgery (Philadelphia), July.

53 *Radical Cure of Inguinal and Femoral Hernia, with a Report of Eight Hundred and Forty-five Cases. William B. Coley.
54 *Two Cases of Ligation of the External Carotid for Severe Hemorrhage—One After Tonsilotomy, the Other After a Slight Intranasal Operation. William W. Keen.
55 *The Operative Treatment for Exstrophy of the Bladder. Frank Hartley.
56 *The Treatment of Fracture of the Neck of the Femur. John Ridlon.
57 *Wounds of the Venous Sinuses of the Brain. Henry R. Wharton.
58 Splenectomy in Splenic Anemia or Primary Splenomegaly. Malcolm L. Harris and Maximilian Herzog.
59 *The Best Incision in Operations for Mammary Carcinoma. William L. Rodman.
60 *Aneurysm of the Thoracic Aorta of Traumatic Origin; Treatment by Introduction of Wire and Electricity. DeForest Willard.
61 *Left Cecal Hernia, with a Report of Two Cases. John H. Gibbon.
62 *The Treatment of Suppurating Hematocele Due to Extra-uterine Pregnancy. George E. Shoemaker.
63 *The Mortality of Operation for Obstructive Jaundice. John B. Deaver.
64 Report of a Case of Recovery from Perforating Typhoid Ulcer of Intestine After Operation. William Jones.

Medicine (Chicago), July.

65 The Heart Lesions of Infancy and Childhood. I. A. Abt.
66 Mental Impressions as a Factor in the Treatment of Disease. J. G. Biller.
67 The Etiology of Acute Rheumatism. F. W. Mann.

Providence Medical Journal, July.

68 *The Yesterday and To-day of Mental Medicine. G. Alder Blumer.
69 Transient or Simple Glycosuria. Stephen A. Welch.
70 Endocardial and Exocardial Murmurs. George S. Mathews.
71 A Case of Removal of the Entire Upper Extremity for Recurrent Angiosarcoma. George D. Hersey. With a Pathologic Report. F. T. Fulton.
72 Etiology of Acute Peritonitis in Children, with the Report of a Case. Edmund D. Chesebro.
73 The Menopause: Natural and Artificial. Wintbrop A. Risk.

Hot Springs Medical Journal, June.

74 Address of Welcome to the Arkansas Medical Society During Its Annual Meeting at Hot Springs, May 14, 15 and 16, 1901. Randolph Brunson.
75 On the Modern Treatment of Acute Gonorrhea. George K. Swinburne.
76 Chronic Gonorrhea. John Van Der Poel.

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77 *The Influence of the Climate of Colorado on the Nervous System in Health and in Disease. J. T. Eskridge.
78 *Clinical Value of the Ehrlich Diazo Test. W. T. Little.
79 *The Treatment of Typhoid Fever, with Special Reference to the Intrarectal Injection of Normal Salt Solutions. E. Stuver.
80 Dry Heat in the Treatment of Disease. R. W. Corwin.

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81 Kraurosis Vulvæ. L. A. Ewald.
82 Beitrag zur Hæmophilia Neonatorum. J. G. Wm. Greeff.
83 Eine Verbesserte Beinprothese. C. H. Doerflinger.
84 Klimatische und Balneologische Curorte in Tyrol. Dr. Jur. Baumfeld

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85 *On the Use of Nitrous Oxid and Ether as an Anesthetic. L. Coyteux Prevost.
86 *Some Practical Features in the Treatment of Consumption. Edward Playter.

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87 The Myometrium: Its Anatomy and Physiology. Byron Robinson.
88 A Few Surgical Suggestions. A. F. McVety.
89 Some Points in the Use of Diphtheria Antitoxin. F. P. Minton.
90 Further Observations on the Therapeutic Action of Ergoapiol. D. E. Bowman.
91 Illustrations of Uterus. Byron Robinson.
92 Ergoapiol—(Smith)—as an Emmenagogue and Oxytocic. M. A. Auerbach.

Medical Examiner and Practitioner (N. Y.), June.

93 The Diagnosis of Heart Disease Considered in Its Relation to Life Insurance Examinations. Charles L. Greene.
94 Arteriosclerosis: The Greatest Foe of the Life Insurance Company. Talbot Jones.
95 Diabetes Mellitus: Its Relation to Life Insurance and Its Treatment. James H. Reed.
96 *Congestion of Population as Affecting the Death-Rate. J. E. Cowgill.
97 *The Environments of the Applicant. William W. Pennell.
98 *A Fallacy to Avoid When Using the Heller and Ferrocyanic Tests for Serum-Albumin. F. S. Grant.

Colorado Medical Journal (Denver), May.

99 *Diphtheria, and Treatment of Some of Its Phases. Wm. K. Robinson.
100 Suggestions to "The Country Doctor" as to How and Why He Should Equip Himself for Bacteriologic Work. H. G. Sigman.

Albany Medical Annals, July.

101 *The Pulmonary Form of Influenza. Howard Van Rensselaer.
102 *The Ocular Complications of Influenza. Charles H. Moore.
103 *Schools for the Insane. Francis M. Hamlin.
104 Report of a Case in Which a Scarf-Pin Was Swallowed and Passed Per Rectum on the Seventh Day. Edgar A. Vander Veer.

Journal of Mental Pathology (N. Y.), June.

105 Psychomotor Hallucinations in General Paralysis. A. Marie.
106 Clinical Researches in Circular Insanity. G. C. Ferrari.
107 Idiot and Imbecile Children. Louise G. Robinovitch.
108 Contribution to the Fissural Integrality of the Parocipital; Observations upon One Hundred Brains. Edward Anthony Spitzka.
109 Suggestion During Natural Sleep. Paul Farez.
110 A Case of Verbal Blindness and Deafness and an Autopsy on the Body. Paul Serieux and F. Farnarier.

St. Louis Courier of Medicine, June.

111 A Case of Splenectomy, with Remarks. J. P. Bryson.
112 *The Diagnostic Value of Blood Examinations in Septicemia. J. C. Da Costa, Jr.
113 Some Sociologic Problems in Relation to Marriage, Crime, Insanity, etc. R. R. Kime.
114 Vaccination. Joseph Grindon.
115 The Technique and Use of Hypodermocylsis. Charles F. Hope.
116 A New Non-Surgical Treatment of Inflammatory Exudates and Their Residua in the Female Pelvis. Hugo Ehrenfest.
117 *On the Use and Abuse of Nasal Sprays. Dunbar Roy.

Atlanta Journal-Record of Medicine, June.

118 Excision in Tuberculosis of Joints—Hip and Wrist. Howard J. Williams.
119 Carbolic Acid Gangrene. W. H. Hudson.
120 The Baneful Effects and Curability of Catarrhal Inflammations of the Upper Respiratory Tract. Arthur G. Hobbs.

Nashville Journal of Medicine and Surgery, June.

121 Minor Surgical Cases as Met with by a General Practitioner. T. J. Happel.

Georgia Journal of Medicine and Surgery (Savannah), June.

122 The Microscope—Its Aid to the General Practitioner. R. H. McGinnis.
123 Acute Yellow Atrophy of the Liver, with Report of Case. T. E. Oertel.
124 Some Points in the Administration of Chloroform. T. M. McIntosh.
125 Inflammatory Diarrhea in Which in Addition to the Systemic Infection the Symptoms of an Acute Local Inflammation Have a Prominent Part—Acute Ileocolitis. W. E. Fitch and Harold L. Warwick.

The Laryngoscope (St. Louis, Mo.), June.

126 Some Critical and Desultory Remarks on Recent Laryngological and Rhinological Literature. Jonathan Wright.
127 A Congenital Deformity of Both Auricles. Henry L. Wagner.
128 *Auscultation of the Mastoid. Albert H. Andrews.
129 *The Importance of Preventing Chronic Suppurating Ethmoiditis by Prompt Local Treatment. Clarence C. Rice.
130 Report of an Intubation, with Complications. Joseph Mullen.
131 Atrophic Laryngitis. B. Tauber.

Vermont Medical Monthly (Burlington), June 25.

132 Tuberculosis and Legislation. Clark Bell.
133 Contribution on the Curing of Tuberculosis in Sanitaria. Prof. Schrotter.
134 Brief Notes on the Treatment of Rheumatism. P. F. Gardiner.

Canada Lancet (Toronto), June.

135 A Case of Deformed Legs. G. A. Bingham.
136 *The Drink Evil. Noah E. Aronstam.

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AMERICAN.

1. **Experimental Yellow Fever.**—Reed, Carroll and Agramonte report cases of yellow fever experimentally produced by blood inoculation from other cases of the disease, showing that parasites are present in the blood during the early stages and that its passage through an intermediate host, though this is Nature's method, is not essential in the life cycle of the parasite. In this respect it is analogous to malarial fevers. All the cases, moreover, in cultures produced from the blood drawn from a vein immediately after injection or from the same syringeful of blood that conveyed the disease, failed to show the presence of Sanarelli's bacillus. In one case colonies of staphylococcus pyogenes citreus were obtained, and in the others no growth whatever. They also report a number of cases of mosquito inoculation, which are of interest in various respects. One point made is the length of time during which a mosquito may remain capable of conveying infection. The periods intervening between the contamination of the insect and the production of the disease were as much as 39, 51 and 57 days respectively. This explains the late appearance of the fever and the persistence of infection in infected houses is hereby accounted for. As regards the production of yellow fever by other species of culex than the fasciatus there was only one negative observation to record, to which they attribute no importance. Future observations will therefore be required for settling this question. Touching the subject of the possible transmission of the parasite to the daughter parasite by means of the ovum, they have also but a single observation, likewise negative. Their experiments confirm the statements of recent writers that the period of incubation of yellow fever does not usually exceed four or five days, but they also maintain that it may be prolonged more frequently perhaps than has been supposed. They also call attention to the importance of the milder cases of yellow fever. Cases that are not suspected of being subject to the disease may introduce it and failure to detect such is one of the most important factors in the development of the theory of propagation of this disease by fomites.

2. **Tubercular Joint Disease.**—Wilson calls attention to the necessity of the early diagnosis of tubercular bone disease and the necessity of the immobilization treatment of these cases. He says that, unlike acute inflammatory processes, tubercular ostitis demands for its recovery perfect fixation for a long time, and any attempts at movement, etc., to prevent stiffness will provide the very traumatism that is needed to maintain and increase the destructive processes. The loss of joint usefulness should never be considered as a necessary or unavoidable result of tubercular joint disease, but rather more correctly as evidence, 1, of failure in not having the attention of the physician sufficiently early; 2, in failure to reach a correct diagnosis; 3, in inappropriate forms of treatment or correct forms of inappropriate treatment. Anything like attempting to apply massage to prevent muscular atrophy or encouraging early use of the affected limb or attempting to prevent adhesions may be disastrous.

5. **Aspergillus Keratitis.**—Only eight or nine writers altogether have reported a total of less than a dozen cases of this condition. Ball reports an additional case and calls attention to the following points: 1, aspergillar keratitis is a more common disease than has been supposed by writers on ophthalmology; 2, intense pain in the eye, followed by the development of a brownish or black mass within the substance of the cornea are pathognomonic signs of aspergillar keratitis; 3, removal of the mass early in the case is followed by uninterrupted cure; 4, failure to recognize the condition and apply proper treatment is followed by sloughing of the cornea, and in some cases by loss of the eye; 5, in the few cases of keratomycosis aspergillina where cultures have been made, only aspergillus fumigatus has been found (Schanz).

6. **Adrenalin Chlorid.**—Reynolds summarizes some of the effects he has witnessed from the use of this drug as follows: 1. It is a powerful hemostatic and acts promptly, generally within a minute. 2. Its effects persist from twenty minutes to four hours. 3. It promptly relieves ciliary pain and all forms of keratitis, iritis, and even the cyclitis of glaucoma. 4. It reduces ocular tension in glaucoma, and apparently prevents hemorrhage in iridectomy. 5. It promptly clears up interstitial opacities of the cornea, following contusions, and seems to modify favorably opacities of punctate keratitis in syphilitic iritis. 6. In many cases it will so reduce the swelling in the tear passages as to allow a stream of fluid to pass from Anel's syringe through the duct, without the use of the probe. In a great variety of tinnitus aurium, prompt and sometimes lasting benefit follows the injection of a drop of adrenalin solution through the eustachian catheter, blown into the tympanic cavity. Several cases without serious impairment of hearing have been promptly relieved in this way. 7. In all forms of swelling of the nasal mucosa, prompt relief followed the application of 4 or 5 minims sprayed into the passage, opening the superior crypts and making access easy to the parts. It renders operations in these passages nearly or quite bloodless and does not predispose to secondary hemorrhage, but has the opposite effect. The 1 to 1000 solution of adrenalin in sodium chlorid may be relied upon to relieve any case of epistaxis. In secondary hemorrhage after operation in the nasal cavities or tonsils, application of adrenalin solution on a cotton mop pressed on the bleeding surface is a promptly efficient hemostatic. The adrenalin solutions are in every sense of the word superior to any preparation of suprarenal extract, or of the desiccated glands which he has been able to procure.

7. **Pilocarpin in Croup.**—Wertman has had several cases of croup or diphtheria where antitoxin seemed to fail and which were treated by him with small doses of pilocarpin hypodermically, which he here reports. He thinks the rapid results from this method in checking the disease and the absorption of the membrane are specially noteworthy. His extreme doses of antitoxin do not, however, seem as large as some would advise, as he mentions only 2000 units used in a fatal case.

9. **Coiling or Occlusion of the Umbilical Cord.**—Davis reviews the conditions of the cord that may occur imperiling the life of the child or interfering with labor. These complications are of sufficient importance to call for prompt interference, and he gives a couple of illustrative cases. When the cord is coiled and it can not be uncoiled or stretched sufficiently to enable birth, it should be clamped and cut. Other subjects mentioned are knotting and prolapse of the cord and its occlusion, by bridles or adhesions, etc. A short cord may cause separation of the placenta and in one case mentioned there was umbilical hernia of the child, which, however, recovered. The treatment in these cases, the author advises, is first ascertaining the situation of the placenta before labor as nearly as possible, and by careful study of the fetal heart sounds, placenta and uterine bruits, the maternal aortic beat, etc., a murmur of the umbilical cord can be recognized. If this is clear it is evidence that the cord is coiled about the child. In the absence of murmur, tedious labor, recession of the presenting parts between the pains, ceasing or slowing of fetal movements, and the sensation of pain referred to the body of the uterus, form strong presumptive evidence that the cord is coiled about the fetus. The patient should be delivered as soon as possible and the use of forceps is advisable. When, however, the cord murmur is absent, if recession of the presenting parts and arterial hemorrhage between pains, pain in the uterus, uterine inertia, and delayed labor are present, a shortened cord is indicated, but the use of forceps is not necessary. The patient's labor pains should be stimulated, strength maintained, and the child delivered as soon as the head is born and the placenta removed as soon as possible. In knots or occlusion of the cord by amniotic adhesions, nothing can be done to save the life of the fetus and in the interest of the mother expulsion of the uterine contents should be hastened as soon as fetal death is diagnosed.

10. **Empyema of Frontal and Ethmoidal Sinuses.**—After reporting a case of empyema of the frontal and ethmoidal

sinuses and of orbital abscess, Pooley calls attention to the special points of interest: the sudden invasion of an acute exacerbation upon a chronic sinusitis of both frontal and ethmoidal sinuses with severe constitutional symptoms, viz., intense swelling of the lids, chemosis, exophthalmus, restricted movements of the eyeball, clearly pointing to the presence of orbital abscess in the cavity. This was undoubtedly induced by extension of the inflammatory processes in one or both sinuses and immediate surgical interference made imperative. Another interesting point is the apparent connection of the sinusitis with scarlet fever in the history of the case, and the neglect or rather insufficient treatment of the chronic process which caused the severe acute symptoms. Still another point is the complete and entire disappearance of numerous nasal polypi after the operation.

11. **Spinal Anesthesia.**—McLean has had experience with some twenty-five cases of spinal anesthesia and describes its symptoms and methods. The most annoying symptom following its use in his operations was the severe headache, somewhat relieved, however, by bromid, codein, etc. He has seen it follow when the precaution of removing, before injecting the cocain solution, an equal amount of cerebrospinal fluid was employed, thus keeping up the equilibrium of the fluid in the subarachnoid space. He finds it as difficult to select the patients that will react favorably under this method, as it is to select beforehand the cases which do well under general anesthesia. Some of the feeblest seem to have the least trouble from this method and some of the most robust suffer severely from its after-effects. He believes it will have a distinct position in surgery, but the boundaries of its domain have not yet been marked out. It can not supersede general anesthesia in all operations below the diaphragm until some technique or preparation of cocain has been found that will be followed by less distressing after-symptoms.

12. **Medullary Narcosis.**—Medullary narcosis is usually confined to operations below the diaphragm, but Morton reports a case of enormous lipoma of the cheek removed under anesthesia by this method, the injection being made in the second lumbar space with the needle pointing upward.

13. **Insanity.**—Walker calls attention to the importance of noticing the early symptoms of various forms of insanity, especially the dangerous ones, such as persecutory insanity, certain forms of alcoholic insanity, etc. He thinks the practical value of attention to these points is: 1. The prevention of mental disease in one predisposed by proper regulation of his life and placing the individual beyond the reach of diverting and disturbing circumstances. 2. In early placing him under the most favorable conditions, allowing his weakened cerebral centers to recuperate. 3. The better performance of our duty to society in more effectually preventing danger to the patient, property and others.

15. This article appeared in THE JOURNAL of July 6, p. 21.

16. **Physical Education.**—Sargent, who is a well known writer on subjects of physical culture, calls attention to the decay of certain forms of sports, the evils of setting up professional standards for amateurs, the tendency towards barbarism in certain games, which he does not specially deprecate, the need of more general physical training instead of encouraging special athletes and the danger of pushing special methods as ends in themselves, rather than as means toward improvement of the individual average man. We are not trying to make abnormal athletes, but to get the highest types of physical perfection in general, and in that we must be constantly on our guard to check abuses and restrain excesses.

19. **High Temperature in Pneumonia.**—In the case reported by Williams the temperature rose to 107.4 in the rectum on the second day and continued relatively high until the eighth day. The tongue throughout the disease was moist and but moderately coated; the stomach behaved well; constipation was constant; the heart action was much accelerated, but not alarming; the physical signs were those of consolidation and fibrinous pleurisy over the whole left lower lobe, and there was slight jaundice of the conjunctiva; but on the whole the symptoms were not such as would be alarming aside from the high temperature observed. The urine, however, contained large quantities of albumin and casts, continuing until the twenty-eighth day, but then became normal and so remained.

20. **Chronic Fluorin Poisoning.**—The object of this paper, as Schwyzer remarks, is to prove that fluorin salts may produce under certain conditions dangerous effects, and, therefore, should be used only with great precaution, and that they may have real dangers as food preservatives and therapeutic agents. He reports the case of a man who suffered from phlebitis and clots in the veins, of puzzling origin. Careful clinical observation, including urinary and blood examinations, detected uninuclear leucocytosis, greatly increased excretion of lime in the feces and urine, and pain in the bones; increased coagulation of the blood with a tendency to thrombosis and the presence of fluorin in the blood and urine. He sets down these indications with the detection of the substance as indications of chronic fluorin poisoning, attributing the rapid coagulation of the blood as a result of disturbed assimilation of lime and chlorin, while the uninuclear leucocytosis should be regarded as being caused by the presence of calcium fluorid in the bone marrow and spongiosa. There was an artificially produced leukemic condition of the blood. The only source of the fluorin that could be suspected was in the large quantities of beer which the patient took, always the same brand, from the same bottler. The beer was submitted to complete analysis. At first the researches were negative, but it was learned that fluorin combines with the glass of the bottle and produces fluorsilicum, which is precipitated on the inner surface of the bottle as a gelatinous substance. The beer was capable of etching glass by being evaporated in a glass dish. The treatment was the washing out with large quantities of water, care as to the excretion, especially the diuresis. The patient suffered from a spell of jaundice, which apparently seemed connected with the increased excretion of lime, forming concretions in the liver. At the time of reporting the patient was improved, but still only partially convalescent. The most important conclusion drawn by the author is that fluorin is capable of cumulative action in certain conditions. In small doses it is relatively harmless, but when it begins to accumulate in the body, continued administration is dangerous and its employment should be prohibited by law. This applies especially to beverages and food stuffs which are consumed regularly, such as beer, green vegetables, meat and milk. Schwyzer also suggests caution in the use of the numerous fluorin preparations which have been recommended for therapeutic purposes, especially in consumption, and there is no doubt in his mind that poisoning could also be produced by organic fluorin combinations if used too long. This is important as symptoms of fluorin poisoning are not very pronounced and it is difficult to detect the fluorin in the body. In conclusion he describes his method of determining coagulation of the blood, which is by means of a small capillary tube connected with a manometer and accurately constructed screw syringe. He considered coagulation is ended when the pressure of 3 c.c. of mercury does not move the blood column.

21. **Limitations of Drug Therapy.**—Babcock's article is a plea for simple methods of therapy, diet, etc. He calls attention to the distrust of medicine by the public as shown by the growth of such idiocies as "christian science," "Dowieism," etc., and this indicates a tendency which the medical profession should regard. The use of water is also specially mentioned and the need of healthy exercise, air, etc.

22. **Appendicular Abscesses.**—Guiteras reports a number of cases of appendicular abscess, several of them fatal; this, however, he remarks, is not the rule, but as such cases are more instructive they are reported. The abscesses he reports are not of the every-day type. He believes in operating at once in all appendicular abscesses and calls attention to the fact that the appendix may swing into various regions of the abdomen, according to its length and that of its mesentery;

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that is, dislocating the abscess as it were, and no tenderness or swelling be revealed in the normal position. The question of counter-openings is also mentioned; he thinks the smaller the incisions and the fewer the number the better for the patient. In almost every case one incision is enough. There are, of course, cases where the abscess is in such a situation that drainage is not complete with one incision; a counter-incision may then be of assistance. As regards the removal of the appendix he thinks it may be said definitely that in all large abscesses no effort should be made to remove it, but in small recent ones or multiple abscesses of short duration it might be well to do so, if the condition of the patient is good. Care should be taken in all cases to avoid rough handling, as it may lead to serious consequences. The drain should be left in place for the first thirty-six to forty-eight hours. The diet should be fluid for the first week or as long as the temperature is above normal, the bowels be moved daily and in all cases a cautious prognosis should be given.

23. **Ambulances.**—Griffith suggests an improvement in ambulances for cases of heat prostration, such as have been so numerous of late. Linings of felt, asbestos, or fillings such as are used in refrigerator structures would mitigate the condition of the heated interior, which is not favorable to recovery of the patient transported.

24. **Porto Rico: Its Climate and Its Diseases.**—After giving the history and a general account of the island and its sanitary conditions, Alden notices the various diseases which occur there. Tropical anemia gives the highest death-rate and seems to be due to the ankylostomum duodenale, as shown by Ashford. Intestinal diseases are common; malaria of the milder types is frequent; yellow fever has been occasional, but not endemic and is not a serious disease in this locality. Malta fever he thinks is responsible for many cases of irregular fever that occur and is probably endemic in the island. Tuberculosis furnishes nearly 7 per cent. of the total deaths, with very little annual variation. Tetanus is frequent and fatal. Venereal disease is very common, and a large proportion of the lower classes are said to be subject to syphilis. Smallpox has been largely vaccinated out of existence since the American occupation. Cerebrospinal meningitis is a comparatively frequent condition, responsible for a considerable mortality. There are about 100 cases of leprosy, though elephantiasis, which is quite common, has often been mistaken for it. Sanitary conditions, etc., were in a very deplorable state when the island was taken possession of by the United States, but there is improvement already manifested.

25. See abstract in THE JOURNAL, xxxvi, p. 1722.

26. **Infant Feeding.**—The points made by Chapin in his discussion of the constitution of milk for infant feeding are: 1, that the chemical analyses of milk are not the only scientific basis of comparison; 2, that Nature adapts an animal's milk food to its digestive system; 3, that cow's milk and woman's milk are intended for different digestive systems; 4, that as cow's milk forms solid curds and woman's flocculent curds, the curd of cow's milk intended for an infant should be broken up mechanically; 5, that as cereal gruels mechanically break up the curds of cow's milk, and as infants are able to utilize them, their use is rational. He says it is often preferable to make the standard diluent of digestive gruels, as they not only break up the curds but furnish a certain amount of nourishment which is immediately available, taking the place of part of the soluble proteids and also form a satisfactory substitute for milk when it must be withheld for a few feedings. A great variety can be supplied to infants by means of digested gruels at a trifling expense and the tendency is always to get back to milk and not to keep on indefinitely with a diet of carbohydrates as with most infant foods used.

27. **Tuberculosis.**—Knopf pleads for the establishment of sanatoriums near large centers of population and points out how, even in smaller places, such sanatoriums might be profitable in prevention of the disease and rendering the patients again useful members of society. He also points out how these have a direct effect in reducing the consumption rate by the unconscious imitation of the cleanliness and sanitary precautions practiced in these institutions. This has been the effect in some German villages where sanatoriums are located.

28. **Gasserian Ganglion Operations.**—The method of removing the Gasserian ganglion is discussed by Amyx and he emphasizes certain points: 1. That careful resection of the ganglion from the dura and other contiguous structures must be made, the dissection being made upon the ganglion and its branches as much as possible. If we keep upon the ganglion and its structures there will be very little hemorrhage, whereas by working on the surrounding tissues hemorrhage will be profuse. 2. The ganglion must be dissected from its dural covering; the cavernous sinus, internal carotid artery, and the middle meningeal artery should be completely separated from the ganglion before any effort is made to evulse it. In his experience he has found it best to first divide the second and third branches, thus break through the trunk of the ganglion and pull it away from the cavernous sinus before any attempt is made to cut out the first branch of the ganglion. This procedure enables the operator to avoid the sixth nerve and the contents of the cavernous sinus. 3. The last consideration is hemorrhage. Packing has controlled the hemorrhage at all times in his experience, and in cases where he removed the ganglion himself the hemorrhage was practically nil. The ganglion was visible at all times and inspection of the middle fossa could be made to differentiate the tissues. Old age and arteriosclerosis favor hemorrhage, but in middle-aged and young persons little is met with.

30. **Medical Prospects.**—The subject of Francis' address is specialism, which he believes is likely to extend, but may not ultimately supplant the general practitioner; that specialism will increase and competition become more fierce, will, he thinks, be the case. That medical treatment will become more scientific and disease more effectively prevented; that hygienic agents will largely supplant drugs, all are strong probabilities. Very probably the family doctor is likely to be eclipsed for a time; perhaps to appear later in a more glorified aspect.

34. **Anal Pockets.**—These formations which appear only during life are claimed by Krouse to be nothing more than pouches and ridges mechanically produced, but which may be the cause of irritable ulcer by the hardened fecal masses tearing them out.

36. **Nephropexy.**—The operation suggested by Dorsett is admittedly a modification of Andrew's operation in which he sutured the fatty capsule to the true capsule of the kidney, to prevent any prolapse of the kidney in the fatty capsule itself. He thinks that a step farther might be taken, that is, to gather up a rim of the peritoneum around the margin of the kidney and draw it into the wound and attach it.

37. **Diphtheria Antitoxin.**—Nietert reports a case of diphtheria in a 21-year-old girl as of interest on account of the amount of antitoxin employed, 25,500 units having been given in eleven days. There was a streptococcus infection in addition to the diphtheria, which made the serum less effective. Venesection and transfusion were also used, and followed by rapid recovery, after opening of the small abscess which formed at the angle of the joint at the left side and which contained diphtheria bacillus.

38. **Epilepsy.**—The treatment of epilepsy suggested here is the Toulouse method, consisting in withholding of free salt from the food, the rationale of which is that bromin may be substituted for chlorin in the tissues. The results appear to be satisfactory in the cases in which the method was employed by the author.

42. **Post-Operative Peritoneal Adhesion.**—The means of prevention of this condition is summarized by Ward in the following: 1. The most perfect possible asepsis. The most rigid adherence to modern methods of securing surgical cleanliness. 2. Avoidance of all raw surfaces and pedicles by covering them with peritoneum or grafts of omentum and the abandonment of the ligature en masse. 3. Protection from

dry-air contact by the use of moist asepsis instead of dry asepsis, keeping exposed parts covered. 4. The time limit—rapidity of operation by technical skill, thorough preparation and trained assistants. 5. Keeping up the heat of the peritoneal cavity by frequent renewal of hot salt solution (115 F.) and by protection of exposed parts. 6. Avoidance of excessive manipulation by proper technique and ante-operative preparation, or posture. 7. Replacement of loops of intestine and omentum by filling the abdominal cavity with hot salt solution before closing, thus floating them, so that they can adjust themselves in their proper relations. 8. Encouraging free motion of the patient after operation instead of prohibiting it. 9. The early use of high enemas (during the first twelve hours) in conjunction with cathartics, and, on failure, the prompt use of oxygen in the Trendelenburg position.

43. **Intrapelvic Intravaginal Perineorrhaphy Without Loss of Tissue.**—The conclusions of Goldspohn's paper are: 1. The superficial muscles of the perineum, readily accessible from its skin side, are too delicate and not located right to furnish any such support as is demanded of the female pelvic floor. And since the skin and connective tissue composes the greater part of the triangular layers of tissue, which fills the space between the vaginal and rectal outlets to serve merely as a common fixation point for the various superficial muscles, no dependence for anything more than cosmetic considerations should be placed upon plastic operation that deal solely or chiefly with this so-called perineal body. 2. The levator ani muscle and the two layers of the deep pelvic fascia between which it is placed and by which it is influenced, are the potential elements in the true pelvic floor, as these structures lie within the pelvic cavity usually, not less than 2.5 centimeters from the outside skin, any actual or anatomically correct repairing of these must be done upon their inner surface, from within the pelvic lumen and beneath vaginal posterior and lateral walls. 3. The associated fascia of the levator ani should be, especially the recto-vesical fascia, our chief constant support of the internal organs and intra-abdominal pressure. Their action is intensified or assisted by contractions of the muscle periodically as required. Therefore, mere resection of the muscles of one or two sides of its longitudinal course and without uniting the two lateral portions of either or both of these structures, the median line in front of the rectum will, in all probability, be unable to subdue a well-developed rectocele completely or permanently, and also be incompetent to restore a sufficiently strong retentive pelvic diaphragm against forces from above. 4. These results, however, have been absolutely shown to result uniformly from a median approximation and union of the lateral halves of the levator ani and its fascia in front of the rectum and its posterior wall, temporarily detached and held out of the way. 5. In complete lacerations into the rectum, the rent in the bowel is first denuded by turning down a flap from its edge, and it is then sutured, the ends of the sphincter ani being dissected out and united. Its coaptation sutures are relieved of tension by a deeper tension suture. After this the vaginal portion of the operation follows in the usual manner.

44. **Alum Enemas.**—Hardon has found the use of alum enemas (an ounce to the quart of warm water injected into the rectum) always beneficial in promoting intestinal peristalsis in cases of post-operative paralysis of the intestine. The promptness and certainty of its action where other remedies fail is its special advantage and he offers it to the profession as a life-saving measure.

53. See Abstract in THE JOURNAL, xxxvi, p. 1583.

54. Ibid., p. 1803.

55. **Exstrophy of the Bladder.**—Hartley's article gives a complete critical historical résumé of the surgery of exstrophy of the bladder. He does not seem to especially favor Maydl's operation, as conservatism in this condition is still a powerful factor. To relieve lateral traction Koch's suggestion as to osteoclasis in early life seems worthy of a trial and Küster's suggestion of closing in the bladder or penis after approximation of the bone by the above method seems the most rational. This method is confined to children under 6 years of age in whom the bladder is large, the diastasis of the pubic bone is slight, and in whom the apposition of the pubic rami may be secured previous to closure of the bladder. In older children and adults König's suggestion to divide the horizontal and descending rami of the pubic bone and to displace them to the median line, if it can be proven to be less fatal, seems to be the most promising for successful continence in the bladder. He thinks it should be given a further trial in children over 6 or 8 years with large bladder and moderate diastasis of the symphysis. Where the bladder is deficient, and in adults where it has become concentrically hypertrophied and the diastasis of the pubic bone has greatly increased, uretero-intestinal anastomosis, unless distinctly contra-indicated, is the operation of choice. In some cases where this is unadvisable, he would extirpate the bladder and anastomose the ureters and urethra (Sonnenberg). He reports the histories of 5 cases operated upon by him since 1888, in only two of which were the results satisfactory. His work ends with an extensive bibliography referred to in the text.

51 **Fracture of the Neck of the Femur.**—Ridlon's article is a résumé of the methods of treatment of fracture of the neck of the femur, with illustrations showing the apparatus and modifications recommended. The first consideration, he thinks, in these cases is to relieve the patient from suffering, which can be done best by replacing the fragments as completely as possible and retaining them by the completest possible fixation. The second consideration in old people who suffer from this accident is the use of such immobilization dressing as will least irritate the patient, favor cleanliness, permit the use of the bedpan and turning of the patient in bed without pain, for pain means the movement of the fragments on each other. The third consideration should be to continue the immobilization of the fracture and protection from all sensitiveness. The fourth consideration is to continue the treatment of the hip until the joint is sound as well as the fracture united.

57. See abstract in THE JOURNAL, xxxvi, p. 400.

59. Ibid., p. 590.

60. Ibid.

61. Ibid., p. 836.

62. Ibid.

63. Ibid.

68. **Mental Medicine.**—Blumer's article is an interesting historic résumé of the advances made in mental medicine in the past century. He quotes from various authorities showing the ideas extant at the beginning of the 19th century and the barbarous methods then used in the treatment of the insane. His article calls attention to the modern advances, our knowledge of the toxemic origin of many cases of insanity, certain points in regard to prophylaxis and the prospects as to the future elucidation of the pathology of this class of cases.

77. **The Climate of Colorado.**—The effect of the climate of Colorado on the nervous system is first noticed by Eskridge. He finds that no unpleasant effects are experienced by healthy individuals on first going to Colorado, if they do not attempt over-exercise. There is a sensation of well-being and stimulation, a tendency rather to be doing. There is stimulation also of the motor system, restlessness and a tendency to over-exercise, and this in turn leads to irritability. Many of the nervous symptoms, also, are due to suggestion. With healthy and acclimated persons, who become accustomed to the rarified air, sleep is generally easily obtained and more refreshing and stimulating. There seems, however, to be a greater tendency to produce nervousness and sleeplessness than at lower levels, and he is inclined to think there is some truth in the opinion that nervousness and insomnia are aggravated by prolonged residence, but he does not believe that mental or organic nervous troubles are specially encouraged. He finds that insomnia due to malnutrition in tuberculous

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subjects is greatly relieved with improvement in the condition of the lungs, and nervous irritability also disappears as the general health improves. Mental depression in tuberculous subjects is more common than at the sea level. This is largely due to isolation and other environmental conditions. He asks: Is tuberculosis more likely to attack the nervous system in Colorado than at lower levels? He thinks this may be safely answered in the affirmative for adults, but in the negative for children. Hysteric subjects do better at the sea level than in Colorado. The same is true to some extent of the neurotic cases, of migraine and chorea. Epileptics and those who are nervous and impressionable from childhood are less favorable than at a lower level. Insanity is less frequent than in the Eastern states in proportion to the population. Maniacal conditions seem to be somewhat aggravated. He has not been able to observe any special difference in frequency, occurrence and results of organic nervous disease in Colorado and elsewhere.

78. **Ehrlich Diazo-Test.**—The test is described by Little, who finds it of value in typhoid and tuberculosis; in the latter disease its continued appearance warrants a fatal prognosis. In typhoid fever its absence or early disappearance are usually favorable signs, while its reappearance indicates relapse.

79. **Normal Salt Solution in Typhoid.**—Stuver calls particular attention to his method of injection of cold normal salt solution into the bowels in cases of typhoid fever, together with other methods which have been found of value in the treatment of the disease.

85. **Nitrous Oxid and Ether Anesthesia.**—Prevost gives his experience in tabulated form of the use of nitrous oxid and ether with special regard to the occurrence of albumin before or after anesthesia, and the occurrence of vomiting. He describes his method of the combined employment of the two agents and finds that the appearance of albumin is very little affected by the quantity of the ether or the duration of the anesthesia. The amount is always small and where albumin has existed before the anesthesia the condition has been by no means aggravated. He holds that with the present methods of general anesthesia cerebrospinal cocainization has not a very large place in surgery.

86. **Tuberculosis.**—The practical features mentioned by Playter are outdoor life, or practically the increased respiratory function, which can also be obtained by the practice of special lung-expansion. He thinks that in his own case one-half century ago, he learned the value of this method and improved under it so satisfactorily that for forty years he has invariably employed this super-respiration as a remedy in phthisis. Habitual deep breathing, night and day, of pure outdoor air is the first remedy. Ozonized air has been found in the Manchester Hospital for consumptives to give better results than any other such remedy tried there, and he expects to give this a trial. As regards sunlight and sunbaths he says he does not need to write. Respecting feeding he has a positive fear of stuffing. Early cases with little fever, where considerable exercise can be taken, may improve in spite of being stuffed. The assimulating power should be closely watched and studied. An increase in weight is not always a positive indication of improvement. He never aims to increase fat or flesh, but rather tone and strength, and the majority of his patients lose weight for a time with improvement of all other conditions. He speaks well of bovinine as a nutrient and of the value of temperate baths for promoting a healthy vigorous skin; a tuberculous patient can hardly be treated successfully without them. Other remedies mentioned are cod-liver oil, creosote given by inunctions most generally at bedtime, inhalants, etc. Most advanced phthisical patients need rest rather than exercise, though passive exercise given before bedtime is often useful and promotes sleep. Night sweats and chills soon subside with abundance of oxygen, and nausea and diarrhea usually with a judicicus diet. For hemorrhages, absolute quiet, cool air and opium, if necessary, are usually sufficient.

96. **Congestion of Population as Affecting the Death-Rate.**—This paper is the second of a series of articles on death-rates as affected by occupation, locality, ratio of population, etc. The author gives tables showing the excessive death-rate in urban populations as compared with that in rural districts, showing an increase in the states where he has studied it from 16 to nearly 74 per cent. against the urban population. The average excess of death rates in cities over that in the country districts is nearly 50 per cent. We find, he says, however, some charged to congestion of population which to some extent are due to other causes, such as unhealthy occupation in the cities; he gives a table of various occupations with their death-rate in cities of 25,000 and in the remainder of the district, which shows a corresponding discrepancy. He asks: Why do life insurance companies pay so little attention to this matter, which is one of the greatest importance and which should receive more careful consideration?

97. **Environments of Applicants in Life Insurance.**—Pennell calls attention to the surroundings of the applicant as affecting the life risk and the little regard which has been paid to the matter by many life insurance companies. Not only the surroundings, but the natural disposition should be considered. The foolish dare-devil individual is necessarily a greater risk, no matter what his physical excellence may be, than a person of the opposite disposition.

98. **Serum Albumin Tests.**—Grant had occasion to renew his chemical supplies and purchased two three-ounce glass vials furnished with glass-ground stoppered pipettes, surmounted by rubber tips, in which he kept acetic and nitric acids. After having used them daily for a couple of weeks, he found that every specimen of urine submitted to the Heller and ferrocyanic test gave apparently an albumin reaction, though not under other tests, and on investigation it was found that the action of the acids upon the rubber tip produced this effect. He calls attention to the possibility of error and the necessity of keeping the acid from such contamination.

99. See abstract in THE JOURNAL, xxxvi, p. 756.

101. **Croup in Pneumonia.**—Van Rensselaer describes the characteristics of the pulmonary form of influenza, more especially the pneumonia which occurs in this condition. He finds while any single portion of the respiratory tract may be primarily and exclusively affected, as a rule, the inflammatory process is a progressive one and extends over several. The common catarrhs of the nasal and contiguous cavities are first noticed. The larynx appears to him to be more commonly involved than supposed, though its involvment is frequently overlooked. The tracheal and bronchial inflammations are most frequent and perhaps the best known of influenzal processes, while pneumonia is the most frequent and important complication, and usually the one that causes death. True influenzal pneumonia is a catarrhal or bronchial pneumonia in which the influenzal bacilli are in pure culture; yet there are many cases of the ordinary croupous variety excited by the diplococcus lanceolatus and a proportion of cases where there is a streptococcus or staphylococcus mixed infection. Grassberger has found the staphylococcus aureus seems to favorably excite the growth of the influenzal bacillus. At the bedside, however, it is often impossible to distinguish these different inflammatory processes. The onset varies considerably; sometimes the pneumonia appears to be primary, but far more often the symptoms of influenza precede and the pneumonia may often seem to first develop during the convalescence. The physical signs may be indistinct and the symptoms of apparent dulness be easily overlooked. Sometimes there is no absolute dulness during the entire progress of the disease. There is a lobular tendency to pneumonia in these cases, but it rapidly extends from one lobule to another. The progress may be very slow, rapid or intermittent. Instead of the pneumonia flush there is often a flush that spreads over the forehead and about the nose and eyes. Profuse sweating from almost the beginning of the disease is another striking difference between it and the ordinary pneu-

monia. Convalescence may be slow. The height of the pyrexia often bears no relation to the inflammatory process or its severity. The resolution may be incomplete and sometimes so prolonged that it closely resembles tuberculosis, especially if the disease is in the upper lobe. Repeated examination for tubercle bacilli is advisable, especially where there is a tuberculous tendency. The mortality of consumption is greatly increased during influenza epidemics, and consumptives who contract la grippe, as Leichtenstern says, frequently get a pneumonia, though it is rare in other conditions.

102. **The Ocular Complications of Influenza.**—The literature of the eye conditions in la grippe are reviewed by Moore, who summarizes in the following conclusions: 1. Many cases reported due to influenza may be dubious as regards that etiologic factor. 2. The nervous apparatus of the eye is specially liable to become involved, as the infection of influenza produces a toxin which is a seleetive cause of nervous symptoms. 3. The ocular manifestations are usually first influenzal. 4. The complications of metastatic or embolic processes are usually severe and detrimental to the integrity of the eye. Aside from this the prognosis of these influenzal complications is usually good with care and attention.

103. **Schools for the Insane.**—The method of conducting schools in asylums for the insane is described by Hamlin, who points out that the idea is not imparting of instruction as much as encouraging self-control and proper concentration of thought. He gives the methods which are, of course, quite different from other schools, consisting in singing, reading the news of the day, with comment and remarks, excluding only arguments on religion and politics; talks on natural history, customs, etc. He remarks on the curious general forgetfulness as to facts manifested by the insane. As regards the benefit from the schools he gives one or two striking instances. It seems to give the patients self-confidence and self-respect and bring them out of their morbid ideas in suitable cases.

112. **Blood Examinations in Septicemia.**—The blood changes of most importance noticed by Da Costa in the diagnosis of septicemia are summarized by him as follows: 1. The marked increase in the fibrin, especially in the early stages of the disease. 2. The presence of bacteria in the circulating blood in occasional instances, always those of grave nature. 3. Anemia corresponding closely to the degree of severity of infection. 4. Leucocytosis except in very mild and very intense infections. The blood picture of septicemia is in no sense to be regarded as specific, but this does not annul its importance and in certain irregular types it would puzzle the skilled clinician. The presence of leucocytosis and fibrin increase is sufficient to exclude typhoid or malaria. If neither a leucocytosis or an increased quantity of fibrin are found, a bacteriologie examination of the blood may prove successful. The early development of decided anemia progressing rapidly is very suggestive of sepsis. Of course, the absence of the Widal reaction and of malarial parasites are also to be considered. Similarly, in differentiating from tuberculosis the leucocytosis and fibrin increase point rather to sepsis. He urges the more routine employment of blood examination as a means of clearing up the diagnostic fog, not only in this condition, but in others.

117. **Nasal Sprays.**—The utility of nasal sprays for their cleansing, stimulating and soothing effects are first noticed. Their abuses, as given by Roy, consists in their too general employment, encouragement of the spray habit, and the excessive force with which they are sometimes used. He thinks it is almost criminal to employ a cocain spray in the nose, especially in chronic cases.

128. **Mastoid Auscultation.**—Andrews reports his method, which he had previously published, of mastoid auscultation, pointing out the possibility of varying results that may be found by other observers according to the instrument which may be used. The principles underlying the method of examination and on which the conclusions are based, are the greater the density of the mastoid, the greater will be its sound-conducting power. The more nearly uniform the media, the same will be the case; and solid media of the same density transmit sound waves, within certain limitations, in proportion to their relative thickness. He does not think the method will take the place of other methods of examination, but believes it is an additional aid to the diagnosis where local symptoms are not clearly defined. Five cases are reported.

129. **Ethmoiditis.**—The principles of Rice's article are stated as follows: "1. No nasal disease should be allowed to progress far enough to produce obstruction, deficient drainage, the close contact of the tissues and the retention of muco-purulent secretions, because in these conditions there exists great danger of extension of disease to the sinuses, and especially to the ethmoid, and 2, all surgical procedures in the nose should be carefully and cleanly performed that no resulting infection can produce a chronic suppurating ethmoiditis."

136. **The Drink Evil.**—Aronstam and Rosenberg give a discussion of the bio-pathologie and legal aspects of drunkenness. They advocate controlling measures for the sale of liquor as follows: 1, moral qualifications for licensees; 2, limit as to their number, granting no new license until a vacancy has occurred; 3, liability and damages for all injuries. The saloonkeeper should be pecuniarily liable to the parents and guardians for the minor, and to wife and family of the man; 4, rules for the sale of liquor: no one should be allowed to sell liquor in conjunction with other business, nor be permitted to sell to aliens, minors, women and habitual drunkards; nor on any holiday, and on no day later than 11 p. m.; 5, a special tax should be put upon all manufacturers and vendors to defray the expenses of asylums built for the treatment of alcoholics and dipsomaniacs. These measures, if followed, they believe, would do much good.

FOREIGN.

British Medical Journal, June 29.

Clinical and Experimental Observations Upon General Paralysis. LEWIS C. BRUCE.—From observations on patients in the progressive stages and in the condition of remission, Bruce finds evidence of gastro-intestinal disturbance, which he considers directly connected with the pathology of the disease. He has examined the blood in these cases and found during the actively progressive periods a leucocytosis, together with the presence of bacteria in one case, resembling the bacillus coli. During the remissions the leucocytosis falls to that of ordinary health. Nature apparently checking the disease and producing remissions by first producing a hyper-leucocytosis, as he theorizes, and the leucocytes in their turn producing something like antitoxin in the blood, which protects the patient for a limited time against further action of the toxin. He comes to the conclusions that the majority of cases of general paresis are due to bacterial toxins absorbed through the stomach and intestines and that each febrile attack represents the actual entrance of bacteria and their toxins into the blood or tissues of the patients, and that during the periods of remission the blood must possess some antitoxic substance. He, therefore, placed two progressive cases of paresis in bed and injected subcutaneously 2 c. c. of defibrinated blood taken from a patient in the stage of remission, daily for three weeks. The first patient became so much improved as to be taken out by his friends and though still mentally damaged and with some of the motor symptoms of the disease, is able to work at his trade and support himself. The other case has shown physical improvement, but no mental change, but the progress of the disease seems to be arrested. He has experimented with the agglutinative power of blood serum of paretics upon the bacillus coli, which he believes is a producer of the toxins causing the disorder and finds agglutinative action present in 70 per cent. of the serums of patients taken during remissions of the disease.

Observations Bearing Upon the Question of the Pathogenesis of General Paralysis of the Insane. W. FORD ROBERTSON.—The author continues the subject of general paralysis, arguing for the views that are expressed in the following conclusions: 1. General paralysis is dependent upon the occurrence of a chronic toxemia of gastro-intestinal origin.

2. The toxins are mainly bacterial and are formed in consequence of a partial break-down of those forces by which the harmful development of the micro-organisms that constitute the ordinary flora of the alimentary tract is normally prevented. 3. The toxins are absorbed and tend especially to produce proliferative and degenerative changes in the vessels of the central nervous system. 4. These vascular changes tend to set in earliest in those parts of the brain that are relatively best supplied with blood, because their walls are brought in contact with the largest quantity of toxins. 5. Tabes dorsalis is dependent upon the same form of toxemia. 6. The part played by syphilis in the pathogenesis of general paralysis and tabes dorsalis is essentially that of altering the natural immunity. 7. There is some evidence in favor of the hypothesis that this alteration in the natural immunity is dependent upon the commencing exhaustion of the leucoblastic function of the bone marrow. 8. The treatment of general paralysis and tabes dorsalis should be directed primarily to the correction of the disorder of the alimentary tract. 9. Probably the only means by which it will be found possible to check the excessive growth of the gastro-intestinal bacteria is that of the employment of specific antitoxins. 10. To arrest the disease by such means may be more practicable than would at first sight appear, because it is probable that the specially injurious toxins are the products of only a few bacterial forms.

An Experimental Inquiry Into the Pathology of Gastric Tetany. W. D. HALLIBURTON and JOHN S. MCKENDRICK.—A case of gastric tetany, or tetany associated with gastric dilatation, forms the subject of the investigation of the authors. They made experiments with the gastric contents prepared by being treated with rectified spirit; the filtrate evaporated several times and finally a solution made after the last filtrate, injecting the matter into animals and testing the blood pressure in each case. It appears from three experiments made that the tetany fluid contains substances much more poisonous than hydrochloric acid itself, which was used as a control test. They supplemented their researches by injecting into an animal the gastric contents obtained from patients in health or suffering only from mild dyspepsia in the same manner and observed the results. The only plausible theory they find, which the experiments support, is that of auto-intoxication. The poisonous substance is formed in the stomach, which absorbed in the blood stream in sufficient amounts must give rise to tetanoid contractures and their well-known symptoms of disease. They find the toxic substance existing in the stomach of the case under consideration, which injected into the animal produces a marked fall of blood pressure and slowing of the heart beat. This substance was not present in the normal gastric contents of health and, moreover, after the neutralization of the tetany fluid, practically no fall of pressure was obtained. What this toxic substance is they can not say. It has a marked acid reaction and it is soluble in alcohol and in normal saline solution. By its injection into animals it causes either direct or reflex excitation of the cardio-inhibitory center. It is, therefore, probable that other centers in the brain and cord are likewise similarly affected.

The Lancet, June 29.

The Practical Points in the Treatment of Threatened Asphyxia. ROBERT L. BOWLES.—The author finds, according to his examination, that in cases of drowning in man, water does exist in the lungs, and is effectually expelled only very gradually and after a long time; and that it is absolutely impossible to produce relief in such a case by the Sylvester method only. He says it would be better to let the patient lie on one side and trust to Nature, rather than to have recourse to measures which would cause the forcible inspiration of air before evacuation of water had been sufficiently effected. Artificial respiration, valuable as it is, if injudiciously employed, becomes really a source of increased danger; therefore, the Marshall Hall method should be preferred.

Intestinal Suture by Means of Continuous Catgut Stitch and Excision of the Mucous Membrane. H. LITTLEWOOD.—The methods employed by the author are given as follows: "The abdomen is opened in the middle line, a suitable portion of the stomach is selected—either the anterior or posterior wall—and a loop of jejunum. These are now emptied and clamped by means of Doyen's pedicle forceps, the blades of which are covered with India-rubber tubing, and are held by an assistant so that the portions of the stomach and bowel to be operated on are in close apposition. The parts are surrounded with strips of gauze or flat swabs. An incision about one and one-half inches in length is now made into the stomach and bowel through all the coats down to the mucosa, and then with a pair of ophthalmic scissors and forceps the coats all around are separated from the mucosa for a short distance, so that a broad surface of all these coats may be brought into contact. The posterior edge of the stomach incision is now stitched to its full extent to a similar portion of the bowel with chromic gut by means of a small curved Hagedorn needle. The suture is knotted at both ends and left long. An elliptical portion of the mucous membrane is now excised from the stomach and a similar portion from the bowel, and the parts are cleansed. The cut edges of the mucous membranes are now stitched the whole way round by a continuous stitch of catgut, knotting it at the two extremities of the openings so as to prevent its drawing too tightly and narrowing the opening. This done, the anterior edges of the incisions into the stomach and bowel through the remaining coats are united by a continuous stitch, the same suture which was left long after uniting the posterior edges. I am not careful to bring serous coat to serous coat, but I rather prefer to bring the deeper layers into apposition. The clamps are then removed. As a rule there is no bleeding—the stitches preventing this. It is important not to pull the stitches too tightly. The gauze is removed and the abdomen is closed. The actual cutting and stitching can easily be done in from 10 to 15 minutes." In doing enterectomy he performs a very similar operation. The parts to be excised are clamped above and below with Doyen's clamps and removed with scissors. A portion of the mucous membrane is excised so that it retracts beyond the cut edges of the other coats, leaving a good broad surface for stitching. The two cut ends are approximated by the clamps and are then closed by continuous catgut stitches in the same way as for gastroenterostomy. Half the lumen, consisting of all the coats, with the exception of the mucosa, is first stitched and fastened, then the mucous membrane the whole way round, interrupting and knotting the stitches in two places. Finally the remainder of the coats are sutured. The clamps are removed and the cut surfaces of the mesentery are approximated by interrupted sutures. The long handles of the clamps enable them to be held in such a manner as to be well away from the field of operation.

Are Not Some Patients Said to be Afflicted with Gastric Ulcer Really Suffering from a Different Disease? W. HALE WHITE.—The author suggests that there is a disease met with chiefly, or perhaps only, in women between 20 and 40 years old, having as its chief symptoms gastric pain, nausea, sickness and hematemesis not dependent upon ulceration of the stomach, any such that is present being quite superficial and no more than might occur secondarily to hemorrhage. In spite of serious gastric symptoms extending over years the patient is not wasted, has been or is often chlorotic and has none of the mechanical effects of gastric ulcer, such as adhesions, pyloric stenosis, or subphrenic abscess. The prognosis is good, though relapses are frequent. He thinks that now since surgeons are opening the stomach for severe bleeding, he finds the existence of this condition which he has long suspected, being confirmed. The operators are already becoming accustomed not to find ulcer even after severe hemorrhage. He calls attention to the literature in support of his view and suggests that this disease may be like chlorosis associated with the period of high sexual activity in women, and hematemesis may have something to do with vicarious menstruation. He calls attention to the importance of separating gastric ulcer from this disorder, and rather deplores operation in these cases.

Bulletin de la Soc. des Hop. de Paris, June 13.

Technique of Cytodiagnosis. DUPRÉ.—The cerebrospinal

fluid is drawn into a tube and immediately centrifugalized for ten minutes with 2500 turns a minute, then carefully decanted. The centrifugalized coagulum is then spread on the plate fixed with alcohol-ether and stained with hematoxylin-eosin, Unna's blue, or Ehrlich's triacid.

Staphylococcus Septicemia. G. ETIENNE.—The septicemia may develop in an acute, a rapid or a protracted form. There is no specific symptom and the symptomatology is about the same for each variety, the extreme prostration and sunken eyes suggesting the second week of typhoid fever, respiration and pulse superficial and rapid, the contractions of the heart irregular and exaggerated, the sounds muffled, sometimes vomiting and fetid diarrhea, but usually the stools are formed. The spleen and liver may be hypertrophied. In a few days the patients look as if they were in the last stage of consumption. If they recover, convalescence is long and tedious. A streptococcus septicemia of such severity is invariably fatal.

June 20.

Purulent Pleurisy Tolerated for Forty Years. FAISANS.—At the autopsy of a man 55 years of age, a very old, purulent, pleuritic effusion was found which dated from his fifteenth year. Nearly 3.5 liters of pus had been enclosed in the indurated pleura, which was cartilaginous or bony where it was in contact with the ribs. Notwithstanding this purulent accumulation the subject had lived like other people, served his term in the army and died finally with an alcoholic liver cirrhosis. When admitted to the hospital for the latter disease the physical signs in the thorax suggested a pleuritic effusion, and a liter of pus was withdrawn. This proved a blunder as the long established equilibrium was destroyed by this measure, and congestion, hemoptysis and intense hyperemia rapidly followed, terminating in fatal asphyxia. Faisans warns that it is better to leave an old pleuritic effusion alone as long as it does not threaten suffocation. In case of serious interference with the respiration, an exploratory capillary puncture should be made and if the fluid is found to contain granulations and fat, with cholesterin crystals, empyema should be avoided and merely a small amount of the fluid withdrawn to ward off dyspnea. Non-intervention is much less dangerous than intervention in these cases. A recent effusion should be operated on as soon as possible; but an old effusion, with the lung fastened by adhesions, should be respected and left untouched unless absolutely necessary.

Tubercles of the Cerebellum. P. MERKLEN.—Headache on effort, with rigidity of the back of the neck, are considered by Merklen important differentiating signs in the diagnosis of a tubercle in the cerebellum. He relates several instances in which these signs were the key to the diagnostic problem. In one case a man had suffered from headache with "stiff neck" and dyspeptic disturbances since he had been thrown from a carriage. He suddenly became somnolent and apathetic, with slight facial paresis. On this basis a tumor in the cerebellum was diagnosed. A serous cyst was found and the patient recovered after simple evacuation.

Application to the Clinic of the Cytolytic Serums. F. WIDAL.—The bactericidal or cytolytic properties of a specific serum are due to the alexins and the "sensibilisatrice" it contains, according to Bordet's latest researches published in the *Pasteur Annales*. Widal has applied these laboratory experiences to clinical diagnosis and states that we have in the specific cytolysis, an actual and reliable means of diagnosis by means of the blood. He calls it "Bordet's fixation reaction." In tests with typhoid serum, the red corpuscles in blood from a typhoid patient remained intact, while the reds from normal blood were rapidly destroyed, staining the fluid red to the eye, and on shaking it becomes a smooth emulsion. This specific absence of cytolysis parallels the agglutination test. The technique of the "reaction of fixation" is still so complicated, however, that it will probably be restricted to dubious cases of typhoid fever, unless it should be found useful for the diagnosis of other diseases that have no agglutination test.

Intensive Dosage of Antitoxin in Protracted, Recurring or Malignant Diphtheria. BARBIER.—The first dose should be large and it should be repeated as often as necessary to cure these forms of diphtheria. Barbier has injected as much as 90, 110 or 140 c.c. of antitoxin in some cases with the final recovery of the child after the last injection, although the disease had apparently failed to respond to all that had preceded. Many cases are now lost from the timidity of the physician who fears to repeat the doses as many times as necessary. The same argument applies also to pseudo-membranous bronchitis and to the bulbar phenomena consecutive to diphtheria. He relates a number of convincing cases under each of these headings, showing how the most serious bulbar paralysis and other symptoms subsided after the injection of 10 c.c. repeated every day until 125 to 130 c.c. had been administered. This intensive treatment should be instituted before the paralytic or bulbar symptoms have become very pronounced. In many cases they are preceded by one to several days of euphoria, and are inaugurated by a period of depression with increasing weakness and arrhythmia of the pulse. Whatever may be the cause of this change, whether it is diphtheritic infection of some of the viscera, or intoxication at a distance, it is the duty of the physician to be on his guard and to treat it as if it were a typical diphtheritic sore throat, with a large injection of antitoxin, repeated daily as long as necessary. Even this intensive treatment may fail, but it proved successful in the large majority of apparently hopeless cases.

Presse Medicale (Paris), June 8.

Spinal Cocainization. T. TUFFIER.—Among the points of especial interest in this latest communication from Tuffier on the subject, we note that he attributes to Corning, not only the priority of subarachnoid injections but also of the epidural method of spinal analgesia, which Sicard and Cathelin have recently revived. Tuffier states that he found subarachnoid cocainization sufficient for the removal of a hydatid cyst of the lung, and Chipault has observed a case in which anesthesia of the entire body was obtained. In some cases it seemed to be impossible to obtain the analgesia, but instead of assuming an idiosyncrasy, he tried cocain from another source, and found it rapidly effectual. In other instances, one injection failed, but a second succeeded. If the hand of the operator trembles, or the needle is withdrawn a trifle, the fluid may not reach the subarachnoid space. No one should assert that a patient is refractory until he has made a second attempt, as usually it is the surgeon who is at fault. The fact that the patient is a spectator of the operation is scarcely an objection, if the surgeon does not talk. Tuffier makes silence the rule in his operations with any kind of anesthetic. He has noticed that the analgesia occurs more slowly in patients with arteriosclerosis. Guinard found it absolutely impossible to induce analgesia by this means in a patient with infectious meningomyelitis. Tuffier's experience has demonstrated the absolute benignity of spinal cocainization. The nausea can usually be controlled by instructing the patient to take deep inhalations. It is persistent in only 1 per cent. of the cases. Plugging the anus with an aseptic tampon will prevent any inconvenience from the relaxation of the sphincter. Coffee, tea, food, a purgative, are the most effective measures against the headache. It lingers in about 2 per cent. Complete repose frequently wards off all disturbances. The effect of the cocain is restricted to the nervous system, principally to the spinal roots that serve as conductors to pain. The organic disturbances sometimes noted are due to disturbances in the nerve functions, the symptoms resemble those of a transient attack of seasickness, and subside without leaving a trace. The respiratory organs and the circulation remain entirely unaffected during and after the analgesia. The renal functions were carefully studied in sixty cases, the results showing that there is no other method of anesthesia which respects the kidneys so completely. In the few cases of death after spinal cocainization that have been reported, visceral lesions were invariably found at the autopsy, of such severity that any operation was contraindicated. The absence of shock and vomiting and the rapid recuperation of the patient are among the chief advantages of this method. The analgesia usually commences in the genital organs. The general indications for spinal cocainization in

preference to general anesthesia are a visceral affection, pulmonary congestion, emphysema, and a renal or cardiac lesion. The special indications are in case of operations on the lower extremities, the genital organs and on the entire urinary apparatus. The surgery of the lungs will also benefit by this method; but for abdominal surgery it should only be used by operators who would not be disturbed if the patient should vomit during the operation.

Paraffin for Ocular Prothesis. J. CHAILLOUS.—Gersuny's injections of paraffin to substitute missing tissues for surgical prothesis, were applied by Chaillous in two cases after enucleation of the eyeball to give the stump a better shape. The results were extremely satisfactory. One or two cubic centimeters of the white vaselin as recommended by Gersuny, and described in THE JOURNAL, were injected into the stump, the injection repeated in five or six weeks.

Progres Medical (Paris), May 25.

Rhino-Pharyngeal Origin of Goiter. H. DU FOUGERAY.—A girl of 12 with chronic hypertrophic pharyngitis, chronic catarrh of the rhino-pharynx and a hypertrophic rhinitis, was treated locally for these troubles and it was noticed that a large goiter which had previously developed, subsided and disappeared completely and permanently by the end of three months. The coincidence of the disappearance of the goiter with the cure of the rhino-pharyngeal lesions, induced Fougeray to make further investigations in this line, and he found that rhino-pharyngitis was invariably present in every one of 211 cases of goiter he had opportunity to examine. Goiter not older than two or three years rapidly subsided under the local treatment he instituted in the rhino-pharynx—52 cases in all, the treatment lasting from one to eight months. If there is cystic degeneration the goiter does not entirely retrogress, although in one case, that of a man of 48, the cure was complete after a single puncture and evacuation of the cyst, supplementary to the local treatment of nose and throat. Old goiters, with fibrous nodules or cysts, diminished by a quarter to a half of their size in 133 cases, under treatment for five months to a year. Very large, old, fibrous or cystic goiters subsided somewhat but not very much under the treatment. He has treated 24 cases of this kind and succeeded in several in reducing the circumference of the neck by 5 to 10 cm. in goiters of thirty years' standing. Besides these 209 cases he has treated two cases of goiter with exophthalmus. In the first, the exophthalmus disappeared after two months, and the goiter began to subside in two weeks after treatment of the rhino-pharyngitis was instituted, which was the same in every case: painting the oro-pharynx with mentholized oil three times a day, aspiration of the same oil by the nostrils five or six times and cauterization of the affected portions of the naso-pharynx with chromic acid. The pharyngeal venous circulation communicates freely with that of the thyroid gland. When this plexus and the entire venous system in the pharynx are gorged with blood from the rhino-pharyngitis, the inflammation may extend into the gland and thus cause the goiter. Vascular lesions of the oro-pharynx he concludes from his extensive research, induce simple goiter; of the cavum and of the nose, exophthalmus; of the mucosa of the nose and pharynx, goiter and exophthalmus. Sympathetic lesions of the oro-pharynx, cavum, nose, or of the entire rhino-pharynx produce cardiac troubles without goiter or exophthalmus. Mixed vascular and sympathetic lesions of the oro-pharynx induce goiter and cardiac disturbances; of the cavum and nose, exophthalmus and cardiac disturbances; of the entire rhino-pharynx, the classic picture of Basedow's disease.

Revue de Chirurgie (Paris), June.

Coincidence of Symmetrical Lipomata with General Paralysis. CH. FERÉ.—A few rare cases of symmetrical lipomata occurring with a nervous affection, epilepsy, sciatica, tabes or neuralgia, have been published and the lipomata considered to be of trophoneurotic origin. Feré, on the contrary, believes that they are not trophic troubles developing in consequence of lesions in the nervous system, but teratomata or embryotomata indicating defective evolution. Their hereditary and congenital character in certain cases, their coincidence with other teratologic malformations, their symmetry and their appearance in young subjects, all plead in favor of this assumption. A case is described in which the lipomata appeared in youth and progressive paralysis about 50 years of age, with no syphilitic antecedents.

Importance of Investigation of the Blood in Surgical Diagnosis. J. SILHOL.—The presence of a malignant neoplasm can be assumed when the blood shows less than half the normal amount of hemoglobin, the red corpuscles are diminished in numbers and irregular in shape, with an unusual proportion of very small or very large corpuscles, and a leucocytosis of at least 15,000 to 20,000. Hartmann has the blood of all his patients examined before he operates, limiting the research to the estimation of the hemoglobin by Gowers' method, the enumeration of the corpuscles and determination of the varieties of leucocytes in dried specimens. The operation confirmed the information derived from the examination of the blood in every instance, although the clinical picture and history were usually unknown to those examining the blood. Cushing has called attention to the leucocytosis in typhoid fever as an indication of imminent perforation, and the same rule applies to appendicitis, etc. A young man had experienced brief pain in the right inguinal fossa, at one time, but there was no tenderness. The blood showed hemoglobin 80 per cent.; the number of reds, 4,600,000, whites, 19,200, with a large proportion of regular mononuclear reds. This leucocytosis decided Hartmann to operate even in the absence of any iliac symptom. He found the appendix fastened by adhesions with an almost complete perforation in the middle. In traumatisms, leucocytosis was noted in every case of fracture examined, while it was absent in simple luxations. Nineteen cases are described at length to show the remarkable concord between the blood findings and the conditions found at the operation. Mikuliez refuses to operate on patients with less than 40 per cent. hemoglobin, as he doubts their recuperative power.

Treatment of Severe Rectitis with Stenosis. A. NAVARRO.—Cases of chronic, painful rectitis, rebellious to ordinary measures, are best treated by abdomino-perineal extirpation as if for malignant disease. Four patients have been thus treated, including three published by Navarro for the first time in this communication. The rectitis involved the omega loop, and between the two rings of stenosis the rectum was a hard, narrow tube. He succeeded in making a continent artificial anus by observing the following points: In the first place, the anus is not merely an orifice, but a canal. The intestine is carried along the abdominal wound for 4 cm. before the orifice is reached, and fastened to the parietal peritoneum, which is closed beneath it. The intestine is then carried along the muscles, sutured to the wound and then to the skin, taking care to twist it *à la Gersuny* before suturing it to the parietal peritoneum. A still more important precaution is to see that the loop is taut between its ilio-pelvic or iliac attachment and the parietal peritoneum, cutting off any superfluous length if necessary. As fecal matters arrive in this taut loop they encounter an obstacle in the closed lumen of the intestine, which is a constant physiologic phenomenon at this point, as the lumen is opened only by the passage of the fecal matters. The obstacle of the closed lumen is sufficient, however, to detain them at this point and their weight in the arc formed by the loop dragging on the mesentery tends to keep the anus closed by traction. In two cases—one patient died from recurring angina pectoris soon after the operation—an actual anal canal was made, perfectly continent, giving the patients five minutes warning before defecation and even allowing postponement for an hour or more. The only essential difference between it and a normal anus is that it is not voluntary. One patient is a prostitute but does not find it necessary to wear a bandage.

Treatment of Abnormal Anus. X. DELORE.—Extraperitoneal operations are dangerous sometimes, frequently incomplete and are indicated only in case the anus has no spur and is recent. Entero-anastomosis for the cure of an abnormal anus seems a useless procedure and lateral enterorrhaphy should be reserved for the cases in which the anus is in the large

intestine and there is no danger of constriction. Enterectomy is the preferable operation. The loop with the anus is resected far into the sound tissues; a triangular piece is cut out of the mesentery and the two stumps are brought together with a Murphy button. This little device, Delore adds, renders enterectomy a certain, rapid and benign intervention in cases of abnormal anus.

Revue Hebd. de Laryngologie (Bordeaux), June 1.

Hysteria from Needle in Ear. M. LANNOIS.—A young woman had a habit of scratching her ears with a needle or pin. One night she experienced a violent pain in one ear and two weeks later became completely deaf. The hearing improved in one ear after a month, but the other remained deaf for more than a year. Daily attacks of hysteria commenced, sometimes as many as six a day, with hysteric pseudo-meningitis, paraplegia and other symptoms of hysteria, with occasional pains in the left ear, irradiating through the head. After the hysteria had lasted two years, the patient applied for treatment and a fragment of a needle was found in the left ear, evidently the source of all the troubles, as the hysteria gradually vanished after its removal. Lannois has had occasion to observe several cases of hysteria proceeding from an imaginary foreign body in the ear. Of course in all these cases the patients are naturally predisposed to the hysteria and a slight physical or psychic impetus is sufficient to induce its appearance.

Semaine Medicale (Paris), June 12.

Hemianopsia in Arteriosclerosis with Interstitial Nephritis. RENDU.—The co-incidence of arteriosclerosis with its complicating functional disturbances in the kidneys, and hemianopsia is far from exceptional. Even when the nephritis is in an incipient stage, the hemianopsia may be quite pronounced. It is, therefore, a very important early sign. In five cases observed by Rendu, two soon terminated fatally. The cerebral lesion causing the hemianopsia may be cured by absorption of the blood if it is connected with a capillary hemorrhage, but it always leaves traces if it is the result of thrombosis, as a focus of softening is left and terminates in a cicatrix in the most favorable cases. The functional disturbance—the hemianopsia—persists with it, but the patient becomes accustomed to it and ceases to notice it. The prognosis of the renal lesion is difficult to determine. Disappearance of albuminuria is considered a favorable sign, but it does not necessarily indicate that permeability has been restored. Polyuria is a good sign, especially when not accompanied by exaggerated arterial tension. Persistence of the headache is grave as it suggests impending recurrence of the attack. Treatment should aim to diminish the arterial tension with the danger of hemorrhages, by leeches and drastic purging. Iodids should never be administered during the acute phases of the headache nor the heart tonics, on account of the danger of congestions.

June 19.

Hematolysis in Cancerous Fluids. BARD.—The writer has never seen a spontaneously hemorrhagic cancerous fluid that was not hematolytic, nor a serous cancerous effusion that was hematolytic. The absence of hematolysis, therefore, in a pathologic fluid, spontaneously hemorrhagic, is a capital presumption against its malignant nature.

Berliner Klinische Wochenschrift, June 10,

Successful Dietetic Treatment of Epilepsy. R. BALINT.—Thirty epileptics were treated by the deprivation of salt which has been advocated during the last two years. The theory is that when the organism is deprived of salt it is much more sensitive to the effect of the bromids, which seem to take the place of salt in the tissues and fluids. Balint, after various attempts to induce his patients to do without salt, which he found destroyed the appetite in time, finally thought of the expedient of having bread made with sodium bromid in the place of salt. This does not affect the taste of the bread, while it substitutes the required medicine in the place of the banished sodium chlorid. The menu found perfectly satisfactory to the patients' taste, as well as from the therapeutic point of view, was 1 to 1.5 liters milk; 40 to 50 gm. butter; three unsalted eggs; 300 to 400 gm. bread, and fruit. This amounted to a total of 2300 to 2400 calories, the amount of salt was less than 2 gm. in all and 3 gm. of sodium bromid were taken, disguised in the bread. All seizures ceased on this diet in 7 of the 9 recent and in 15 of the 19 old, chronic cases, some of which had had a large number of seizures every day, and had been considered hopeless for years as the bromids had no effect on them previously. That is, in 80 per cent. the seizures were completely abolished and in the remaining 20 per cent. they were very much attenuated and the intervals became longer. In some patients all seizures ceased after the second or third day; in others the number was increased for a few days, but by the sixth or seventh, the beneficial effect was apparent in all. The mental faculties improved in proportion, and patients who had previously been dull and inert all the time, roused and took an interest in gardening, etc. They almost invariably gained in weight and all relished the diet. This menu was continued for thirty-five to forty days. When it was discontinued the seizures recurred in most cases, but much attenuated and they did not regain their former intensity for a long time. One patient continued this dieting for three months and there have been no seizures at all during the month since it was suspended.

June 17.

Enterogenic Origin of Pernicious Anemia. E. GRAWITZ.—Degeneration of the blood is never a primary blood disease. It is always secondary to some known affection such as malaria or malignant disease, or to slight, chronic hemorrhages or to an alteration of the bones or to some known or ignored poison, such as carbon dioxid, lead, toxins elaborated by intestinal parasites or to toxins generated in the putrefaction of albumin in the intestines. Every case of pernicious anemia can be traced to some cause of this kind if the anamnesis and clinical signs are carefully sifted. The conception of the enterogenic origin of pernicious anemia is an important progress in the domain of hematology. The nervous and the blood systems are the ones most liable to be attacked in case of auto-intoxication from the intestines, and the individual predisposition is the determining factor as to which one is to be affected. Grawitz describes an interesting case in which the pernicious anemia had unmistakably originated in a preceding severe, chronic intestinal catarrh pouring irritating substances into the liver by the portal circulation, and thus inducing extensive infiltration of the periportal connective tissue. The autopsy also showed extensive deposits of iron in the liver cells, which evidently must have been derived from destruction of the blood corpuscles, showing that the poisonous products must have been pre-eminently toxic for the corpuscles. The case is the more remarkable as the subject was a child 7 years of age. The glands in the alimentary canal were not atrophied in this case, which is another proof of the intestinal origin of the anemia. It also demonstrates that this atrophy is not an indispensable factor in the etiology of pernicious anemia, although it undoubtedly aggravates it when it exists. By appropriate dietetic measures, copious rinsings of the alimentary canal and the administration of arsenic, Grawitz has succeeded in curing 6 out of 12 patients with severe pernicious anemia, as he described in detail in the *Berliner Klin. Woch.*, 1898, 31. He has since treated 7 patients and cured each one. One has been in good health for eight, 3 others for four years and 4 others for nearly as long.

Centralblatt f. Chirurgie (Leipsic), June 22.

Immediate Cystorrhaphy After Sectio Alta. BALACESCU.—The method described was first worked out on dogs and has been mentioned in THE JOURNAL before: XXXI, p. 1369. Further experience has confirmed its extreme usefulness, dispensing with catheterization and drainage, allowing spontaneous urination from the start, absolutely preventing oozing of urine, and answering every requirement. Twelve cases are described. Primary reunion occurred in seven, eight and eleven days in 3 cases, in nine days in 5, in twelve in 2 and in fourteen in 1. Balacescu calls the method "cystorrhaphy by imbrication." The patient is prepared by a three to six days' course of treatment with salol or urotropin internally and perman-

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ganate or silver nitrate locally. While the anesthetic is being administered the bladder is rinsed out once more and completely emptied. The incision in the vertex commences in the anterior and continues into the posterior wall. The side of the bladder-wound toward the operator is turned over outward, making a sort of flap with the mucosa exposed. The latter is then detached from the muscular layer beneath, forming a crescent-shaped flap of mucosa, and leaving the muscular beneath with a raw surface. The mucosa flap is then sutured to the intact mucosa of the other lip of the wound with No. 0 or 00 catgut, the stitches passing through the base of the flap. The muscular layers in each lip are then sutured together, the stitches passing through the base of the flap, and the raw flap of muscular tissue is then brought over the double row of sutures like a cover and sutured to the outside of the bladder well beyond. This cover protects the danger points, the angles of the wound. The patients were allowed to urinate spontaneously in 4 cases from the start; a catheter was inserted occasionally in 2 for seven days and in 1 for four, and a permanent catheter for nine days in 4. All the patients were dismissed cured in twelve days. In one case the sutures had not been applied with the necessary care and there was slight infiltration of urine for a day or so, easily remedied.

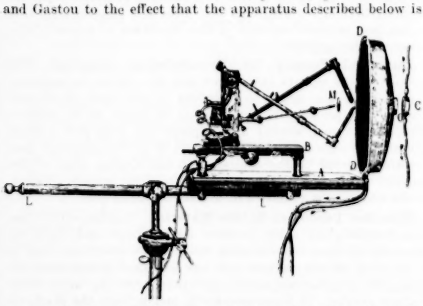
June 29.

To Hasten Consolidation of Fractures. F. COLLEY.—A working man with a fracture of both bones of the forearm was rendered helpless by the lack of union after months had passed. An exploratory incision showed that the bones were otherwise normal. Colley made a thin paste of freshly calcined, finely pulverized bone ashes from the femur of a beef, with gum arabic and distilled water. He injected 10 c.c. of this paste once a month at the points of the bones and found that the ulna and radius had become firmly consolidated by the sixth injection. He is now engaged in experiments on animals to determine whether the stimulation of the defective callus formation is due to the bone ash, or whether other irritating substances possess the same property.

Dermatologische Zeitschrift, June.

Relations Between Lupus Vulgaris and Erythematodes. E. SAALFELD.—As a typical case of disseminated, follicular lupus progressed it assumed some of the characteristics of common lupus and also of lupus erythematodes. Saalfeld regards it as the connecting link between these forms of lupus.

Improved Apparatus for Phototherapy. LORTET and GENOUD.—THE JOURNAL of June 15, p. 1742, quoted Leredde and Gastou to the effect that the apparatus described below is



a revolution in phototherapy, as it brings it within the reach of every physician on an electric light circuit, and at the same time simplifies and shortens the time of treatment required. The light is brought close to the part exposed, without the interposition of the condenser considered necessary by Finsen. The carbon tips are set at such an angle that the cone of rays passes through the aperture O in the center of the hollow screen vessel D. The walls of this vessel are 6 to 7 mm. apart, thus forming a space through which cold water is constantly circulating, to prevent the heating of the vessel. The carbon tips can be adjusted at any distance from the aperture O, but the most satisfactory is about 1 to 2 cm. In this position the projecting edge of the vessel D shields the light. The mirror M prevents backward radiation of the light and concentrates it at the opening O. The hollow obturator or compressor C is made of two discs of rock crystal allowing the circulation of water between them. The light can be approached to within 4 cm. of the compressor without danger of heating it, although it allows the passage of most of the heat rays. The part compressed is kept cool by the flowing water, and hence the effect of the heat rays is not felt, while the chemical rays pass through the compressor unmodified. The entire apparatus is adjustable at any position on the axle L, which is in turn adjustable on the standard. Only 40 to 45 volts are required, with 8 to 10 amperes. Besides the remarkable simplicity and inexpensiveness of this apparatus, the zone exposed can be from 1 to 6 cm. in diameter. Finsen's apparatus is restricted to an active zone the size of a franc-piece, less than that of a quarter. The photochemical intensity of the light is so strong that fifteen to twenty minutes or even less are ample to attain the desired therapeutic result, equal to an exposure of one to one and a quarter hours with Finsen's apparatus.

Deutsche Archiv f. Klinische Med. (Leipsic), lxx, 1 and 2.

Intercostal Phonation. E. WEISZ and L. KETLY.—As the glottis closes, the lung bulges out in the interspaces. This bulging does not occur of course over the liver and spleen, and consequently it is possible to determine with this sign the lower limits of the lung. The bulging can also be the result of pleuritic exudates or transudates and the examination of fourteen patients has shown that this sign is a reliable diagnostic measure, enabling the lower limits of the effusion to be located, unless interfered with or prevented by adhesions, indurations or reflex rigidity of the intercostal muscles. When this phonation sign is observed faintly in a circumscribed patch in the midst of an area of dulness, in the absence of other phonation phenomena, a small amount of exudate can be surmised, unless a thin layer of aerated lung tissue lies between.

Traumatic Diaphragmatic Hernia. T. STRUPPLER.—Very few of the 500 cases of diaphragmatic hernia on record were diagnosed during life and consequently Struppler calls attention to a case in which he made a correct diagnosis by the aid of radiography and Weisz' sign mentioned in the preceding paragraph. The patient complained of pain and oppression in the left thorax after eating, a burning sensation, dating from a severe fall six years previously. He had been punctured nineteen times for a supposed pneumothorax. The constant modifications in the physical findings after eating, drinking, or changing position, suggested the correct diagnosis. The area of dulness after eating included on the left side the third, fourth and fifth interspaces. Inflation of the stomach caused the left half of the thorax to swell and occasioned dyspnea, sweating and general distress, while the epigastric region remained flat. The cold sensation after drinking ice water was experienced in the center of the left part of the thoracic cavity. A quart of water injected into the intestines through a tube 47 cm. in length, caused this same sensation in the left breast, and the same sounds were heard as when water was taken into the stomach. The diagnosis was, therefore, traumatic hernia with displacement of the mediastinum and dextrocardia, with a portion of the intestine as well as of the stomach involved in the hernia.

Deutsche Med. Wochenschrift (Leipsic), June 27.

Significance of Eosinophile Cells in Tuberculous Sputum. E. STADELMANN.—Eosinophile cells in the sputum have no diagnostic nor prognostic importance in tuberculosis, according to Stadelmann's conclusions from the study of 82 cases. The cells were found in 15, that is, 18 per cent., and in severe as well as in mild forms of the disease; in one slowly progressive case they were found in moderate quantities through the entire course of the disease, irrespective of the presence of tubercle bacilli in the sputum. In other cases of incipient tuberculosis no eosinophile cells could be discovered at any time.

Contagiousness of Cancer. R. BEHLA.—Nineteen unpublished cases of conjugal cancer are reported; in all but two instances the internal organs were affected. Elsler has observed a case in which a man tending his father-in-law with carcinoma of the rectum, developed a carcinoma of the lip a few months later, and his wife a carcinoma of the mamma soon after he was operated on. Boas has observed 5 conjugal cases and Guelliot has collected 89. Four others are also on record. This makes a total of 118 cases in which man and wife both had cancer, the interval ranging from three months to twenty years. Besides these, there are 43 cases on record of a cancer of the penis and of the uterus in man and wife, and 6 of "family cancer" in which members of the family used the same pipe or syringe. Berger recently had occasion to remove a carcinoma from the penis of the husband and from the ear of the wife at about the same time. Ebert has collected 22 cases and Kaufmann has witnessed another, in which there was direct transmission of the malignant neoplasm from one lip to the other, the tongue to the palate, etc. In 8 cases on record surgeons or physicians have died of malignant disease traceable to inoculation with cancerous juices, and 4 instances have been observed in which persons apparently contracted the affection from a cancerous dog, cow or hen. Besides this evidence in favor of the contagiousness of cancer, Behla cites the spontaneous cancerous epidemic among the white mice at the Freiburg Institute of Pathology, and the successful experiments of Francotte, Rechter, Langenbeck, Follin and Lebert, in which animals were inoculated with cancer juices. Behla injected the secretion from a mammary carcinoma into the jugular vein of a 2-year-old dog, and found three months later a nodule of cancerous structure in the liver. He concludes from all these facts that conceding the influence of heredity in some of the cases, of transplantation in others and of the simultaneous action of some general causal agent in certain of the cases of *"cancer à deux,"* there still remains a number of the above cases in which these factors must be excluded. Consequently the theory of the non-contagiousness of cancer has been shaken and the physician should institute prophylactic measures.

Preservation of Natural Iron Waters. O. ADLER.—Natural iron water is apt to lose its iron by standing. Adler has found that it is taken up by a bacterium in the water, and that if the bacteria are destroyed by the addition of a little disinfectant, the water retains the same properties as when first drawn.

Trauma as a Factor in Extra-uterine Pregnancy. L. SEELIGMANN.—In five cases in the author's experience young women who had previously borne one or two healthy children, required operating on account of an extra-uterine pregnancy, and each related that she had had a severe fall from a ladder or on the ice, in a sitting position, shortly after her last menstruation.

Deutsche Zeitschrift f. Chirurgie (Leipsic), May.

Perimetry of the Joints. C. HUEBSCHER.—The apparatus used in opthalmology to determine the extent of the visual field, has been adapted by Huebscher as a test and record of the mobility of a joint. The hand, foot or arm takes the place of the eye and the diagram is similar, enabling the entire condition to be seen at a glance, and locating the paralyzed muscles in case of paralytic deformity.

Splenectomy in Splenomegalia. M. L. HARRIS and M. HERZOG (both of Chicago).—Two personal cases of classic primary splenomegalia are described and their cure by splenectomy. One, the patient a young woman, was a chronic case with leucopenia; the other, a man of 47, presented a comparatively rapid course, with leucocytosis. There was hyperplasia of endothelial cells in each case, a process closely resembling that observed in lymphangioma. The therapeutic success of splenectomy in such cases proves that the alterations in the spleen are evidently the cause of the degeneration of the blood. The facts observed suggest that, possibly, the lympho-endothelial spleen cells produce an erythrolytic enzyme which causes the destruction of the blood corpuscles in the spaces in the pulpa. When these cells are enormously enlarged as in case of splenomegalia, a great excess of this erythrolytic ferment is produced and consequently more corpuscles are destroyed in the greatly enlarged spaces in the pulpa than occurs under normal conditions. This hypothesis affords a plausible explanation of the prompt improvement in the blood and the complete recovery after splenectomy in cases of primary splenomegalia. In the seventeen cases that have been published, eight recovered. Median incision is generally recommended, continued downward until the lower end of the spleen can be drawn up and out. The veins are usually very much dilated, thin and fragile.

Muenchener Med. Wochenschrift, June 11.

Gelatin in Hemostasis. GEBELE.—Clinical and experimental research has demonstrated that the blood acquires increased coagulating power as the amount in circulation is diminished. Gebele announces that this coagulating power can be directly augmented by the administration of gelatin. It has little if any power, alone, to induce coagulation, but after the loss of one-fifth to one-fourth of the total amount of blood, its hemostatic properties supplement the natural tendency of the blood to coagulation in these circumstances, and it proves a very effective hemostatic measure, injected subcutaneously in a 2 per cent. or applied locally in a 10 per cent. solution, at 37 to 38 C. It will thus prove useful after severe hemorrhages, while it fails in slight hemorrhage in which the usual thermic, chemical and mechanical measures are alone effective.

Pseudomyxoma of the Peritoneum. E. FRAENKEL.—The condition known as pseudomyxoma is in reality merely a metastatic reaction of the peritoneum to the bursting of a pseudomucilaginous cysto-adenoma of the ovary or of the appendix vermiformis, with consequent accumulation of jelly-like mucus in the abdominal cavity, and a specific reaction on the part of the peritoneum to this foreign body. In women the symptoms are usually severe, the number of recoveries very small. In a case described at length, a man 79 years of age had died of a cerebral affection and at the autopsy the anatomic picture of pseudomyxoma of the peritoneum was discovered, and the cause traced to a cystic degenerated and ruptured appendix. The connection with the intestines had been closed before the rupture, and consequently the contents discharged were sterile and no symptoms were noted from the occurrence at any time. The peritoneum did not react as usual with the formation of pseudo-membranes, encapsulation of the foreign body and adhesions. The reaction took the form of proliferation of tissue histologically identical with normal tissue, the general aspect of the parts in contact with the glassy, compact mucus resembled that of a young chorion. Fraenkel believes that this is the first instance reported of this condition as a result of a lesion of the appendix.

Improved Pessary for Hemorrhoids. SCHEFFER.—The portion of the pessary introduced into the rectum is comparatively short, the upper half sloping at an angle of 90 and the lower tapering into the neck at an angle of 55 degrees. The neck is very slender and a projecting ring just outside the anus is constantly pressed against it by the muscular contraction exerted by the sphincter on the sloping sides of the pessary within. This ring keeps a prolapsed nodule reduced, while none of the pessaries in use accomplishes this.

Reindeer Tendon as Suture Material. GREIFE.—The Russian surgeons are using reindeer tendon more and more extensively as time is confirming Sneguireff's assertions that it is the ideal suture material. It has been used in 450 laparotomies and innumerable minor operations with the most satisfactory results. It is comparatively sterile from the start, no germs have ever been discovered below the surface, and it takes up the disinfecting fluids much more readily than catgut. Tests have shown that when the tendon is thoroughly imbued with a stain, only one-third of the catgut in the same fluid shows traces of the stain. The method of sterilization preferred in the Moscow clinics is for two days in ether, one month in juniper oil, ether two days, alcohol two to seven days, in aqueous 1 to 2000 solution of sublimate two days, and in conclusion, the tendons are kept in alcohol to which 30 per cent. water is added to render the tendons flexible.

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